



Prepared for:
**Washington State
Transportation Commission**

2008 Ferry Customer Survey

Technical Paper #3: Opportunities to Shift Peak Vehicle Demand



Prepared by:

O R C 
Opinion Research Corporation

[Blank page inserted for pagination purposes.]

Preface

A key objective of this research was to identify the potential to shift vehicles from peak travel periods to off-peak travel periods and/or to encourage peak period drivers to walk onto the ferry instead.

Results from three of the research phases provide critical insights into this issue. This includes questions from the on-board surveys, the Price Sensitivity Research, and the Mode Shift Sensitivity Research. These latter studies were conducted online as follow-ups to the on-board surveys. Respondents to the on-boards were asked to indicate their interest in participating in this research. Just over 4,300 on-board survey respondents (33% of all respondents) agreed to participate in the additional research and provided some contact information.

This Technical Paper looks at four key issues:

1. Riders' access to and willingness to use transit;
2. Riders' perceptions of their ability to travel at different times;
3. Opportunities to shift demand through fare strategies;
4. Opportunities to shift demand through operational strategies;
5. Attitudes toward operational strategies to encourage use of alternative modes; and
6. Attitudes toward operational strategies to improve walk-on passenger access at the terminals.

Each major section begins with a brief summary of the key findings. Detailed analysis then follows. Key findings are analyzed for the following key segments:

1. Season of travel (when questions were asked in both survey waves);
2. Boarding mode for sampled trip;
3. Route used for sampled trip; and
4. Day of week and time of travel for sampled trip (overall and when appropriate by boarding mode).

Table of Contents

Contents

Preface.....	iii
Table of Contents.....	iv
<i>Contents</i>	<i>iv</i>
<i>List of Figures</i>	<i>viii</i>
<i>List of Tables</i>	<i>ix</i>
Key Findings – Current Access to, Use of, and Attitudes toward Public Transportation.....	1
<i>Summary – Current Access to, Use of, and Attitudes toward Public Transportation</i>	<i>1</i>
Current Access to Public Transportation to Access Ferries	1
Current Use of Public Transportation to Access Ferries	2
Willingness to Use Public Transportation / Other Alternative Modes to Access Ferries	2
<i>Detailed Findings – Access to Public Transportation Services to Access Ferries</i>	<i>3</i>
All Winter Riders: Access to Public Transportation Services to Access Ferries	3
Boarding Mode Results: Access to Public Transportation.....	5
Route Level Results: Access to Public Transportation.....	6
Time of Day / Week Travel Results: Access to Public Transportation.....	8
<i>Detailed Findings: Current Use of Public Transportation to Access Ferries</i>	<i>9</i>
Demographic Characteristics of Transit Users.....	10
Route Level Analysis: Use of Public Transit	11
Time / Day of Travel: Use of Public Transit.....	12
<i>Willingness to Use Public Transportation or Other Alternative Modes to Access Ferry</i>	<i>13</i>
All Winter Vehicle Drivers and Passengers.....	13
Boarding Mode Results: Willingness to Use Public Transportation and Other Alternative Modes to Access Ferry.....	14
Route Level Results: Vehicle Drivers' Willingness to Use Public Transportation to Access Ferry	15
Time of Day / Week Travel Results: Vehicle Drivers' Willingness to Use Public Transportation to Access Ferry	16
Key Findings – Perceived Ability / Flexibility to Travel at Different Times	17
<i>Summary: Perceived Flexibility in Traveling at a Different Times</i>	<i>17</i>
Ability to Travel at a Different Time.....	17

Perceptions of What Trips are Discretionary versus Non-Discretionary	17
<i>Detailed Findings: Perceived Flexibility in Traveling at a Different Time</i>	18
Overall Perceived Flexibility to Take an Earlier / Later Boat	18
All Riders	18
Boarding Mode Analysis: Overall Ability to Take an Earlier / Later Boat	19
Route Level Analysis: Overall Flexibility to Take an Earlier / Later Boat	20
Time of Day / Week Travel Analysis: Overall Flexibility to Take an Earlier / Later Boat	21
Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times.....	22
All Riders.....	22
Boarding Mode Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times.....	23
Route Level Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times.....	24
Time of Day / Week Travel Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times	26
Other Significant Findings: Extent to Which Current Peak Weekday Vehicle Drivers Could Shift to Off-Peak Travel Times by Purpose of Sampled Trip	27
Perceptions of What Trips are Discretionary versus Non-Discretionary	28
Key Findings – Shifting Vehicle Demand through Fare Strategies	29
<i>Overview of Approach</i>	29
<i>Summary: Shifting Vehicle Demand through Fare Strategies</i>	31
Impact of an Across-the-board Fare Increase.....	31
Impact of Raising Vehicle Fares while Maintaining or Decreasing Walk-On-Fares	32
Impact of Raising Peak Vehicle Fares while Maintaining or Decreasing Off-Peak Vehicle Fares.....	32
<i>Detailed Findings: Shifting Vehicle Demand through Fare Strategies</i>	34
Base Case Overview and Results	35
Potential Change in Travel Behavior Resulting from an Across-the-board Fare Increase (Vehicle and Walk-On Fares) on Travel	36
Impact on Drive-On Peak Travel Behavior.....	36
Impact on Walk-On Peak Travel Behavior	36
Potential Impact on Overall Ridership.....	36
Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-on Fares are Maintained or Decreased	39
Impact on Drive-On Peak Travel Behavior.....	39
Impact on Walk-On Peak Travel Behavior	39
Potential Impact on Overall Ridership.....	40
Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased	42
Impact on Drive-On Peak Travel Behavior.....	42
Impact on Drive-On Off-Peak Travel Behavior	43
Potential Impact on Overall Ridership.....	44
Impact on Walk-On Travel Behavior	44

Key Findings – Opportunities to Shift Demand through Operational Strategies	46
<i>Summary: Mode Shift Sensitivity.....</i>	46
Preferred Options.....	46
Most Important Factors Influencing Mode Choice.....	47
Potential Impact on Mode Choice with Different Service Offerings	47
<i>Overview of Approach</i>	48
Background and Objectives.....	48
Methodology.....	50
Demographics Characteristics of Study Participants	53
Travel Characteristics.....	54
<i>Overview of Trip They Described as Their Most Recent Trip.....</i>	55
<i>Detailed Findings – Mode Shift Sensitivity.....</i>	58
Extent to which Incentives / Disincentives Would Encourage Riders to Walk onto the Ferry	58
Transportation from Home to Terminal	58
Transportation from Arrival Terminal to Final Destination	60
Interest in Convenience Services to Help Mobility	64
Utilities	65
Transportation from Home to Terminal	67
Transportation from Terminal to Destination.....	69
Passenger Access Improvements	71
Percentage of Vehicle Trips that Could Be Possibilities to Shift to Walking On.....	72
Importances	73
Changes to Services or Trip that Would Motivate Riders to Shift from Driving to Walking On.....	74
Vehicle Driver Preferences for Current Levels of Service	74
Comparing Current Levels of Service to Everything Riders Could Want and Nothing They Would Want.....	76
Key Findings – Attitudes toward Operational Strategies to Encourage Use of Alternative Modes	82
<i>Summary.....</i>	82
Attitudes toward Operational Strategies to Encourage Use of Transit.....	82
Attitudes toward Operational Strategies to Encourage Use of Vanpools / Carpools.....	83
<i>Detailed Findings – Operational Strategies to Encourage Use of Transit.....</i>	84
All Riders.....	84
Boarding Mode Analysis: Agreement / Disagreement with Strategies related to Transit Connections / Service.....	86
Route Level Analysis: Agreement / Disagreement with Strategies related to Transit Connections / Service	87

Time of Day / Week Travel Analysis: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service	89
Other Significant Findings: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Willingness to Use Transit	90
<i>Detailed Findings – Operational Strategies to Encourage Use of Vanpools and Carpools</i>	91
All Riders.....	91
Boarding Mode Analysis: Agreement / Disagreement with Strategies related to Vanpool / Carpool Strategies	92
Route Level Analysis: Agreement / Disagreement with Strategies related to Vanpools / Carpools	93
Other Significant Findings: Vehicle Drivers' Agreement / Disagreement with Strategies related to Vanpool / Carpool by Willingness to Vanpool / Carpool.....	94
Key Findings – Attitudes toward Proposed Operational Strategies to Improve Passenger Access	95
<i>Summary – Attitudes toward Proposed Operational Strategies to Improve Passenger Access.....</i>	95
<i>Detailed Findings – Attitudes toward Proposed Operational Strategies to Improve Passenger Access.....</i>	98
All Winter Riders: Attitudes toward Proposed Operational Strategies to Improve Passenger Access	98
Boarding Mode Results: Operational Strategies to Improve Passenger Access	102
Route Level Results: Operational Strategies to Improve Passenger Access	105
Offer Fare Discounts and Other Incentives	105
Provide Dedicated Lanes to Safely Drop Off Passengers at Terminals	106
Improve Sidewalk Connections	107
Improve Bicycle Connections	108
Provide Sheltered / Secure Bike Parking	109
Covered / Separated Pedestrian Walkways.....	110
Car Sharing Program.....	111
Reserve and Pay for Parking by Phone or Web.....	112
Secure / Covered Parking with Walkways to Terminals	113
Bike Sharing Program	113
Time of Day / Week Travel Results: Operational Strategies to Improve Passenger Access.....	114
Other Significant Findings: Attitudes toward Operational Strategies to Improve Passenger Access by Attitudes toward How WSF should Invest its Improvements	116
Appendix	117
<i>On-Board Survey Background / Objectives / Methodology / Relevant Questions.....</i>	117
Background / Objectives.....	117
Methodology.....	117
Sampling	117
Data Collection and Interviewing Outcomes	119

Questionnaire	120
Weighting	120
On-Board Survey Questionnaire – Relevant Questions	121
Color Codes:	121
Access to / Willingness to Use Transit.....	121
Attitudes toward Strategies to Improve Transit Connections.....	121
Attitudes toward Strategies to Improve Passenger Access	122
Price Sensitivity Study Background / Objectives / Methodology / Questionnaire.....	123
Study Background / Objectives / Methodology	123
Overview	123
Methodology.....	125
Questionnaire.....	127
Mode Sensitivity Study Background / Objectives / Methodology / Questionnaire	145
Study Background / Objectives / Methodology	145
Questionnaire.....	147

List of Figures

Figure 1: Access to Public Transportation	3
Figure 2: Walk-On Passengers' Use of Public Transportation.....	9
Figure 3: Walk-On Passengers' Use of Public Transit to Access Ferries by Time / Day of Travel	12
Figure 4: Willingness to use Public Transportation or Other Alternative Modes to Access the Ferry	13
Figure 5: Overall Perceived Flexibility to Take an Earlier / Later Boat by Boarding Mode.....	18
Figure 6: Overall Perceived Flexibility to Take an Earlier / Later Boat by Route	19
Figure 7: Overall Flexibility to Take an Earlier / Later Boat by Route.....	20
Figure 8: Overall Flexibility to Take an Earlier / Later Boat by Time of Day / Week Travel	21
Figure 9: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times	22
Figure 10: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Boarding Mode.....	23
Figure 11: Likely Travel Behavior Under Current Fares if Vehicle Driver had a Choice as to How to Take the Trip.....	35
Figure 12: Potential Change in Travel Behavior for All Travel if Faced With an Across-the-board Fare Increase	37
Figure 13: Potential Change in Travel Behavior for All Travel if Vehicle Fares are Increased and Walk-On Fares are Held at Current Levels.....	40
Figure 14: Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-On Fares are Decreased by 20 Percent.....	41

Figure 15: Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-On Fares are Decreased by 40 Percent.....	41
Figure 16: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle and Walk-On Fares are Maintained ..	44
Figure 17: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased by 20 Percent and Walk-On Fares are Maintained	45
Figure 18: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased by 40 Percent and Walk-On Fares are Maintained	45
Figure 19: Extent to Which Different Options to Get from Home to Terminal Would Encourage Vehicle Drivers to Walk On instead of Driving	59
Figure 20: Vehicle Drivers' Preferred Option to Get from Home to Terminal	59
Figure 21: Extent to Which Different Options to Get from Arrival Terminal to Destination Would Encourage Vehicle Drivers to Walk On instead of Driving	61
Figure 22: Vehicle Drivers' Preferred Option to Get from Arrival Terminal to Destination	61
Figure 23: Vehicle Drivers' Preferred Option to Get from Arrival Terminal to Destination by Route	62
Figure 24: Interest in Convenience Services to Help Mobility	64
Figure 25: Conjoint Utilities for Different Alternatives to Get from Home to the Ferry Terminal.....	67
Figure 26: Conjoint Utilities* for Different Alternatives to Get from Home to the Ferry Terminal by Route	68
Figure 27: Conjoint Utilities for Different Alternatives to Get from Arrival Terminal to Final Destination	69
Figure 28: Conjoint Utilities** for Different Alternatives to Get from Terminal to Final Destination by Route	70
Figure 29: Conjoint Utilities for Passenger Access Improvements.....	71
Figure 30: Percentage of Vehicle Trips that Could Be Possibilities for Walking On	72
Figure 31: Importance of Different Incentives / Disincentives in Vehicle Drivers' Mode Choice Decisions	73
Figure 32: Share of Preference for Current Scenarios	77
Figure 33: Share of Preference for Best Case Scenario by Route.....	78
Figure 34: Share of Preference for Test Scenarios	80
Figure 35: Share of Preference for Two Test Scenarios by Route.....	81
Figure 36: Winter Riders' Attitudes toward Proposed Operational Strategies to Improve Passenger Access	100

List of Tables

Table 1: Access to Public Transportation On Home Side	3
Table 2: Access to Public Transportation At Home and Destination	3
Table 3: Access to Public Transportation by Boarding Mode	5
Table 4: Access to Public Transportation by Route	7

Table 5: Access to Public Transportation by Time of Day / Week Travel and Boarding Mode.....	8
Table 6: Other Modes Used in Conjunction with Transit Trips.....	9
Table 7: Demographic Characteristics of Transit Users and Non-Users.....	10
Table 8: Walk-On Passengers' Use of Transit to Access Ferries by Route	11
Table 9: Willingness to Use Public Transportation / Other Alternative Modes by Boarding Mode.....	14
Table 10: Vehicle Drivers' Willingness to Use Public Transportation to Access the Ferry by Route	15
Table 11: Vehicle Drivers' Willingness to Use Transit by Time of Day / Week Travel	16
Table 12: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Route	25
Table 13: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Time of Day / Week Travel	26
Table 14: Extent to Which Current Peak Weekday Vehicle Drivers Could Shift to Off-Peak Travel Times by Purpose of Sampled Trip.....	27
Table 15: Perceptions of What Trips are Discretionary versus Non-Discretionary.....	28
Table 16: Mode Shift Attributes and Levels.....	48
Table 17: Comparison of Respondent Demographic Characteristics	53
Table 18: Comparison of Respondent Travel Characteristics.....	54
Table 19: Description of Most Recent Trip(s)	55
Table 20: Current Trip Length and Cost by Route.....	57
Table 21: Current Transit Case.....	74
Table 22: Current Park & Ride Lot Case	75
Table 23: Current Terminal Parking Case	75
Table 24: Best Case Scenario	76
Table 25: Worst Case Scenario	76
Table 26: Agreement / Disagreement with Strategies related to Transit Connections and Service	84
Table 27: Agreement / Disagreement with Strategies related to Transit Connections / Service by Boarding Mode	86
Table 28: Agreement / Disagreement with Strategies related to Transit Connections / Service by Route.....	88
Table 29: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Time of Day / Week Travel	89
Table 30: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Willingness to Use Transit	90
Table 31: Agreement / Disagreement with Strategies related to Vanpool / Carpool Strategies.....	91
Table 32: Agreement / Disagreement with Strategies related to Carpool / Vanpool Strategies by Boarding Mode	92
Table 33: Agreement / Disagreement with Strategies related to Vanpools / Carpools by Route	93
Table 34: Vehicle Drivers' Agreement / Disagreement with Strategies related to Vanpool / Carpool by Willingness to Vanpool / Carpool	94

Table 35: Attitudes toward Operational Strategies to Improve Passenger Access by Boarding Mode	104
Table 36: Provide Discounts / Other Incentives to Walk-On / Bicycle Passengers by Route	105
Table 37: Provide Dedicated Lanes to Safely Drop Off Passengers at Terminals by Route	106
Table 38: Improve Sidewalk Connections to Terminals by Route	107
Table 39: Improve Bicycle Connections to Terminals by Route	108
Table 40: Provide Sheltered / Secure Bike Parking by Route	109
Table 41: Covered / Separated Pedestrian Walkways by Route	110
Table 42: Car Sharing Program by Route	111
Table 43: Reserve and Pay for Parking by Phone or Web by Route	112
Table 44: Secure and Covered Parking with Walkways to Terminal by Route	113
Table 45: Bike Sharing by Route	113
Table 46: Attitudes toward Operational Strategies to Improve Passenger Access by Time of Day / Week Travel	115
Table 47: Attitudes toward Operational Strategies to Improve Passenger Access by Attitudes toward How WSF should Invest its Improvements	116
Table 48: Number of Sampled Trips Surveyed	118
Table 49: Total Number of One-Way Trips Surveyed	119
Table 50: Number of Completed Surveys – Overall and by Route	119
Table 51: Sample Sizes – Weighted and Unweighted	120
Table 52: Comparison of Respondent Demographic Characteristics	126
Table 53: Demographic Characteristics of Panel and Study Participants Compared to On-Board Survey Respondents	146

[Blank page inserted for pagination purposes.]

Key Findings – Current Access to, Use of, and Attitudes toward Public Transportation

Summary – Current Access to, Use of, and Attitudes toward Public Transportation

Current Access to Public Transportation to Access Ferries

Thirty-seven percent (37%) of all winter ferry riders say they have access to public transportation from where they live **and** to where they need to go on their destination side.

- Existing access to public transportation services may be a factor in the decision and/or ability to walk onto the ferry – more than half (54%) of all winter walk-on passengers have access to public transportation both on their home and destination sides.
- For winter vehicle drivers and passengers, perceived access to transit on their destination side appears to be one of the barriers to transit use. Only 31 percent of winter vehicle drivers and 36 percent of vehicle passengers believe they have access to transit on their destination side. Access may be a function of lack of awareness of what service is available to their destination or a true lack of convenient transit (there may actually not be any service) to their destination.

Access to transit on both sides of their trip is highest among winter riders on the Seattle / Bainbridge (53%), Seattle / Bremerton (48%), and Fauntleroy / Vashon (45%) riders.

- Edmonds / Kingston winter riders are the most likely to say they don't have access on both sides (20%). Notably, only one out of four (25%) Edmonds / Kingston winter riders say they have access to transit to get them to their destination in Edmonds.

Nearly three out of ten (29%) peak weekday winter vehicle drivers have access to public transportation on both their home and destination sides, suggesting that they could potentially walk-on. This would suggest that factors other than access – for example, schedule connectivity, amount of time the trip takes by transit, or a simple dislike of or disinterest in using transit – rather than access are barriers to transit use.

- Three routes stand out as providing potential opportunities for increased use of transit by peak weekday winter vehicle drivers (based on self-reported access to transit on both sides of their trip): Seattle / Bainbridge (48%), Mukilteo / Clinton (38%), and Fauntleroy / Vashon (35%).

Current Use of Public Transportation to Access Ferries

Thirty-one percent (31%) of all winter walk-on passengers use public transportation to access the ferries for a portion of or for their entire trip.

- Consistent with the availability of transit service, winter walk-on passengers on the Fauntleroy / Vashon (55%), Seattle / Bainbridge (36%), Seattle Bremerton (40%), and Fauntleroy / Southworth (37%) routes are the most likely to use public transportation services. This provides further evidence that the availability of convenient public transportation that can get passengers from their home to the ferry and/or from the ferry to their destination can contribute to riders' potential to walk onto the ferry.

Nearly half (44%) of peak weekday winter walk-on passengers use transit for some of or their entire trip -- that is, they use transit to get to the ferry and/or to get from the ferry to their final destination.

- Again, transit use is highest on those routes with good access: Fauntleroy / Vashon (71%), Fauntleroy / Southworth (64%), Seattle / Bainbridge (47%), and Seattle / Bremerton (52%).

Willingness to Use Public Transportation / Other Alternative Modes to Access Ferries

With the exception of using public transit, the majority of winter vehicle drivers and passengers are neutral toward or unwilling to use alternative modes to get to the ferry.

- Half (50%) of all winter vehicle drivers are willing to use transit. It is notable that nearly one out of four (23%) winter vehicle drivers are "very willing" to use transit. Of these, 40 percent has access to transit on both sides of their trip. This group, representing just over 10 percent of all winter vehicle drivers, represents a significant opportunity to decrease vehicle demand. In fact, converting these drivers could result in a decrease in winter vehicle traffic during peak travel periods by 4,708 weekly trips (winter).
- If it is also possible to convert the 33 percent of those peak weekday winter vehicle drivers who are somewhat willing and who have access to transit, vehicle traffic would decrease further by 4,188 weekly winter vehicle trips.

Detailed Findings – Access to Public Transportation Services to Access Ferries

Respondents completing the March On-Board Survey were asked whether they had access to public transportation services from (a) where they live to the ferry terminal, (b) from a park-and-ride lot near where they live to the ferry, and (c) from where they get off the ferry to their typical destination(s).

All Winter Riders: Access to Public Transportation Services to Access Ferries

Just over half (53%) of all winter riders have access from their home to the ferry terminal. Just under half (48%) have access to transit from a park-and-ride lot near their home. Combined, two-thirds (68%) of WSF winter riders can access public transportation on their home side. One out of three (33%) riders has access to transit near where they live and from a park-and-ride lot.

Table 1: Access to Public Transportation On Home Side

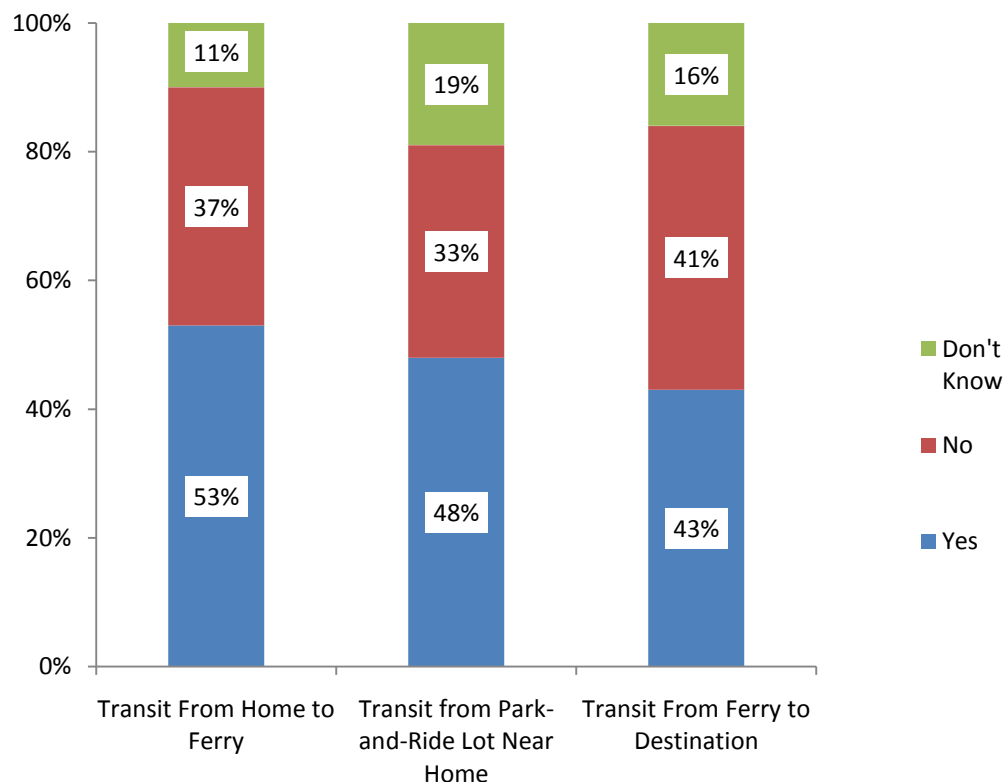
Transit From Park-and-Ride Lot	Transit Near Home	
	Yes	No / Don't Know
Yes	33%	15%
No / Don't Know	19%	33%

Fewer (43%) winter riders have access to public transportation from where they get off the ferry to their destination. In total, 37 percent of WSF winter riders have or believe they have access to public transportation on both sides of their trip.

Table 2: Access to Public Transportation At Home and Destination

Transit to Destination	Transit On Home Side	
	Yes	No / Don't Know
Yes	37%	6%
No / Don't Know	31%	27%

Figure 1: Access to Public Transportation



Questions: Do you have public transportation available. . .
 From where you live to the ferry terminal?
 From a park-and-ride lot near where you live to the ferry?
 From where you get off the ferry to where you typically need to go?
 Base: All Winter Respondents (n = 5,471)

[Blank page inserted for pagination purposes.]

Boarding Mode Results: Access to Public Transportation

Existing access to public transportation may be a factor in winter walk-on passengers' mode choice.

- More than three out of four (76%) winter walk-on passengers have public transportation near where they live and/or at a park-and-ride lot near their home.
- More than half (54%) of all winter walk-on passengers have access to public transportation both on their home and destination sides.

While the majority of vehicle drivers and passengers also have access to public transportation on their home side, access on their destination side appears to be a barrier.

- More than three out of five winter vehicle drivers and passengers have access to public transportation on their home side – 61 and 64 percent, respectively.
- However, about half that number has access to transit to get to their destination. Only one out of four (26%) winter vehicle drivers have access to public transportation on both their home and destinations sides.

Table 3: Access to Public Transportation by Boarding Mode

	Winter Riders (n = 5,471)	Vehicle Drivers (n = 2,358)	Vehicle Passengers (n = 618)	Walk-On Passengers (n = 2,495)
Access From Home	53%	46%	51%	62%
Access to Park-and-Ride Lot	48%	46%	45%	53%
Access to Destination	43%	31%	36%	61%
Combined Access From / Near Home	67%	61%	64%	76%
Combined Access Home / Destination	37%	26%	31%	54%
Questions: Do you have public transportation available. . . From where you live to the ferry terminal? From a park-and-ride lot near where you live to the ferry? From where you get off the ferry to where you typically need to go?				

Route Level Results: Access to Public Transportation

Most likely a factor in the relatively high numbers of winter walk-on passengers on the Seattle / Bremerton and Seattle / Bainbridge routes, passengers on these routes also have relatively good access to public transportation on both their home and destination sides.

- Nearly half (48%) of all Seattle / Bainbridge winter riders walk onto the ferries. More than two-thirds (68%) of all Seattle / Bainbridge winter riders say they have transportation from near their home to the ferries. More than four out of five (80%) have access from their home and/or a park-and-ride lot. In addition, more than half (53%) of Seattle / Bainbridge winter riders have access on both sides.
 - Two-thirds (66%) of Seattle / Bainbridge winter walk-on passengers on this route say they have access to public transportation on both sides of the route.
- Even more (63%) Seattle / Bremerton winter riders walk onto the ferry. Their access to public transportation is somewhat lower than Seattle / Bainbridge riders. This is due primarily to lower access on their home side. Only 70 percent of all Seattle / Bremerton winter riders have access to transit on their home side compared to 80 percent of Seattle / Bainbridge riders. Both routes have equal access on the destination side. As a result just under half (48%) of Seattle / Bremerton winter riders have access to public transportation on both sides of the route.
 - Among Seattle / Bremerton winter walk-on passengers, this increases to 62 percent.

Fauntleroy / Vashon winter riders also report higher than average access to public transportation.

- More than four out of five (82%) Fauntleroy / Vashon winter riders have access to public transportation on their origin side. However, their perceived access to transit on the destination side is lower than that evidenced by Seattle / Bainbridge and Seattle / Bremerton riders. Only half (49%) of Fauntleroy / Vashon winter riders say there is access to public transportation that can get them to their destination. This is consistent with the focus group results in which many participants complained about the lack of connectivity with Metro on the destination side. Despite this, more than two out of five (45%) Fauntleroy / Vashon winter riders have transit available from both where they live and to where they need to go.
 - Thirty-eight percent (38%) of Fauntleroy / Vashon winter vehicle drivers have access to transit on both sides compared to 56 percent of winter walk-on riders.

Mukilteo / Clinton winter riders also claim relatively high access to public transportation on their home side – 74 percent say they have access.

- A significant percent (66%) of Mukilteo / Clinton winter riders have access to transit via a park-and-ride lot near their home.
- In addition, 36 percent of Mukilteo / Clinton winter riders say they have transit available from the ferry to their destination.

Edmonds / Kingston winter riders report one of the lowest rates of access to public transportation on their destination side.

- Only one out of four (25%) Edmonds / Kingston winter riders say they have access to public transportation that can get them to their destination. This is consistent with statements made in the focus groups about the lack of connectivity with Community Transit. In addition, anecdotal information from the focus groups also suggests that winter riders on this route have more dispersed destinations, with many traveling to North and East King County. On the other hand, this is somewhat surprising given the connectivity on this route with Sounder to downtown Seattle.

Not surprisingly, winter riders on the Anacortes / San Juan and Port Townsend / Keystone routes are the least likely to have access to public transportation.

Table 4: Access to Public Transportation by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Access From Home	53%	68%	60%	35%	54%	57%	48%	54%	42%	22%
Access to Park-and-Ride Lot	48%	51%	43%	36%	66%	63%	46%	49%	33%	14%
Access to Destination	43%	58%	58%	25%	36%	49%	45%	35%	21%	14%
Combined Access From / Near Home	67%	80%	70%	49%	74%	82%	67%	73%	52%	27%
Combined Access Home / Destination	37%	53%	48%	20%	32%	45%	41%	28%	18%	8%
<i>Questions: Do you have public transportation available. . .</i> <i>From where you live to the ferry terminal?</i> <i>From a park-and-ride lot near where you live to the ferry?</i> <i>From where you get off the ferry to where you typically need to go?</i>										

Time of Day / Week Travel Results: Access to Public Transportation

Consistent with the other analysis, winter walk-on passengers at all times of the day believe they have greater access to public transportation than do their vehicle driver and vehicle passenger counterparts.

What is notable in the table below is the finding that 29 percent of peak weekday vehicle drivers have access to public transportation on both their home and destination sides. While access is clearly a problem for the majority of vehicle drivers, for the 29 percent of peak weekday vehicle drivers that have access, other factors such as schedule connectivity or the amount of time required to take transit may also be barriers.

Three routes stand out as having potential opportunities for increased use of transit.

- Nearly half (48%) of peak weekday vehicle drivers on the Seattle / Bainbridge route say they have access to public transportation on both sides of their trip.
- Thirty-eight percent (38%) of peak weekday vehicle drivers on the Mukilteo / Clinton route and 35 percent of peak weekday vehicle drivers on the Fauntleroy / Vashon route say they have access to transit on both sides of their trip.

Table 5: Access to Public Transportation by Time of Day / Week Travel and Boarding Mode

	All Winter Riders (n = 5,471)	Total Peak Weekday (n = 2,987)	Peak Weekday			Total Off-Peak Weekday (n = 1,297)	Off-Peak Weekday			Total Weekend (n = 1,187)	Weekend		
			Vehicle Driver (n = 1,156)	Vehicle Passenger (n = 239)	Walk-On (n = 1,592)		Vehicle Driver (n = 619)	Vehicle Passenger (n = 157)	Walk-On (n = 521)		Vehicle Driver (n = 583)	Vehicle Passenger (n = 222)	Walk-On (n = 382)
Access From Home	53%	54%	46%	47%	63%	53%	46%	55%	65%	51%	47%	52%	55%
Access to Park-and-Ride Lot	48%	54%	49%	48%	60%	47%	46%	42%	51%	43%	42%	45%	42%
Access to Destination	43%	52%	35%	41%	70%	39%	28%	43%	57%	35%	33%	28%	46%
Combined Access From / Near Home	67%	72%	66%	63%	80%	65%	61%	63%	79%	64%	60%	65%	67%
Combined Access Home / Destination	37%	46%	29%	36%	63%	34%	24%	38%	50%	29%	27%	24%	38%
Questions: Do you have public transportation available: from where you live to the ferry terminal?; from a park-and-ride lot near where you live to the ferry?; from where you get off the ferry to where you typically need to go?													

Detailed Findings: Current Use of Public Transportation to Access Ferries

Walk-on passengers in both the winter and summer survey periods were asked how they get to and from the ferry. This analysis looks primarily at the extent to which walk-on passengers use public transportation.

Thirty-one percent (31%) of all walk-on passengers use public transportation to access the ferries for a portion of or for their entire trip. Winter walk-on passengers are somewhat more likely than summer walk-ons to use transit as part of their trip.

- Of those using public transportation, 38 percent use it on the side where they live to get to the ferries; 36 percent use it on the destination side. Twenty-seven percent (27%) of those using public transportation use it to get to the ferries and to get to their final destination.

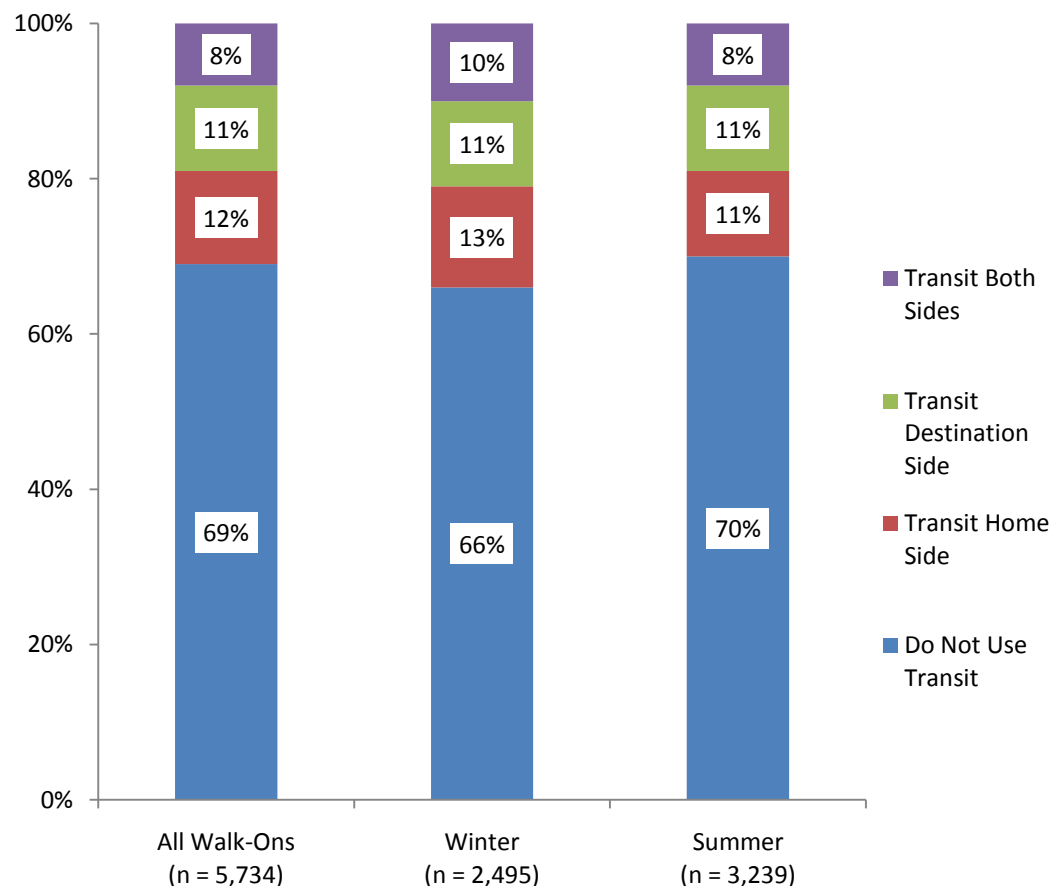
Nearly two out of three (63%) walk-on riders who use transit to get from their home to the ferry walk to their final destination.

Forty-eight percent (48%) of those who use transit to get to their final destination drove and parked a vehicle; 28 percent were dropped off at the terminal.

Table 6: Other Modes Used in Conjunction with Transit Trips

Other Mode Used in Conjunction with Transit	Use Transit From Home (n = xxx)	Use Transit to Destination (n = www)
Walk	63%	18%
Dropped Off / Picked Up	17%	28%
Drove and parked or retrieved vehicle	11%	48%
Bicycle	1%	2%
Other	10%	4%

Figure 2: Walk-On Passengers' Use of Public Transportation



Question 10A: How did you get to the ferry?

Question 10B: How will you get from the ferry to your final destination?

Variable created to reflect transit use from home to ferry and from ferry to final destination.

Demographic Characteristics of Transit Users

Transit riders who use transit on both sides of their trip or on the destination side only are more likely to be women than men. Conversely, men are more likely than women to use transit on their home side only.

- It is interesting to note that women (53%) are more likely than men (47%) to not use transit at all. This is different than what is noted in most transit studies where women are more likely to use transit.

There are no real significant differences in age of transit users.

- Of note is the finding that those who do not use transit are more likely to be 65 and older.

Those who use transit on their home side and, to a lesser extent, on both sides are more likely than those who use transit on their destination side only or who do not use it at all to be employed full-time – 81 and 74 percent compared with 69 and 65 percent, respectively.

- Consistent with the higher percentage (10%) of those 65 and older in the transit non-user segment, this segment is also more likely to be retired (12%)

Consistent with most transit surveys, those that use transit are less affluent than non-users.

- This is notable for those that use transit on both sides of their trip. One-third (33%) of these transit users have household incomes between \$15,000 and \$50,000.
- It is interesting to note that walk-on winter riders who use transit on their home side only are relatively affluent compared with other transit users. Notably 24 percent have household incomes of \$100,000 to \$150,000 per year.

Table 7: Demographic Characteristics of Transit Users and Non-Users

	All Walk-On (n=5,734)	Use Transit Both Sides (n = 494)	Transit Home Side Only (n = 814)	Use Transit Destination Side Only (n = 627)	Do Not Use Transit (n = 3,573)
Gender					
Male	48%	47%	53%	44%	47%
Female	52%	53%	47%	56%	53%
Age					
16 – 17	2%	0%	2%	3%	2%
18 – 24	8%	6%	6%	8%	9%
25 – 34	13%	10%	14%	12%	13%
35 – 44	18%	18%	22%	19%	18%
45 – 54	26%	30%	26%	25%	26%
55 – 64	23%	28%	23%	24%	23%
65 +	9%	6%	7%	8%	10%
Median	48.3	49.8	47.2	47.9	48.2
Employment					
Full-Time	68%	74%	81%	69%	65%
Part-Time / student	17%	16%	13%	18%	18%
Self-Employed	<1%	<1%	-	<1%	<1%
Retired	10%	7%	4%	9%	12%
Other	5%	3%	3%	3%	6%
HH Income					
< \$15,000	6%	9%	5%	8%	5%
\$15,000 - \$35,000	10%	16%	9%	13%	10%
\$35,000 - \$50,000	11%	17%	10%	9%	11%
\$50,000 - \$75,000	20%	23%	22%	23%	18%
\$75,000 - \$100,000	18%	16%	21%	18%	18%
\$100,000 - \$150,000	21%	14%	24%	18%	22%
\$150,000 Plus	14%	5%	9%	11%	17%
Median	\$79,136	\$59,154	\$79,483	\$71,884	\$84,374

Route Level Analysis: Use of Public Transit

Consistent with the availability of transit service, walk-on passengers on the Seattle / Bainbridge, Seattle Bremerton, Fauntleroy / Vashon, and Fauntleroy / Southworth routes are the most likely to use public transportation services.

- By far, the heaviest use of transit is among walk-on passengers on the Fauntleroy / Vashon route. Fifty-five percent (55%) of Fauntleroy / Vashon walk-on passengers use transit. Two out of five (40%) of those using transit do so on both sides of their trip. Twenty-one percent (21%) of Fauntleroy / Vashon riders who use transit use it on their home side only. Nineteen percent (19%) of these passengers walk to their final destination; 26 percent get picked up; and 4 percent bicycle. Surprisingly, half of these walk-on passengers retrieve a car at Fauntleroy.
- Thirty-six percent (36%) of Seattle / Bainbridge walk-on passengers use transit. Of these, 48 percent use transit on the Bainbridge side only. Seventy-five percent (75%) of those using transit to get to the Bainbridge ferry then walk to their destination when they reach Seattle.
- Two out of five (40%) Seattle / Bremerton walk-on passengers use transit – the highest rate of transit use. Of these, 43 percent use transit on the Bremerton side only. Seventy-seven percent (77%) then walk to their final destination in Seattle.
- Nearly two out of five (37%) of Fauntleroy / Southworth walk-on passengers use transit. Nearly half (46%) of these passengers use transit on the destination side only. Twenty-nine percent (29%) of these passengers get dropped off at the ferry on the Southworth side. Nearly half (46%) drive and park their car (at a park-and-ride lot, at the terminal, or near the terminal).

Table 8: Walk-On Passengers' Use of Transit to Access Ferries by Route

	Walk-On Riders (n = 5,734)	SEA/ BAIN (n=2,821)	SEA/ BRE (n=1,023)	EDM/ KIN (n=633)	MUK/ CLI (n=427)	FAU/ VAS (n=147)	FAU/ SOU (n=172)	PTD/ TAH (n=36)	KEY/ PTT (n=89)	ANA/ SAN (n=348)
Use Transit Both Sides	8%	9%	10%	1%	13%	22%	9%	11%	4%	1%
Use Transit Destination Side Only	11%	10%	13%	5%	16%	21%	17%	20%	3%	4%
Use Transit Home Side Only	12%	17%	17%	1%	9%	12%	10%	4%	2%	2%
Do Not Use Transit	68%	64%	60%	93%	62%	45%	63%	66%	92%	93%

Question 10A: How did you get to the ferry?

Question 10B: How will you get from the ferry to your final destination?

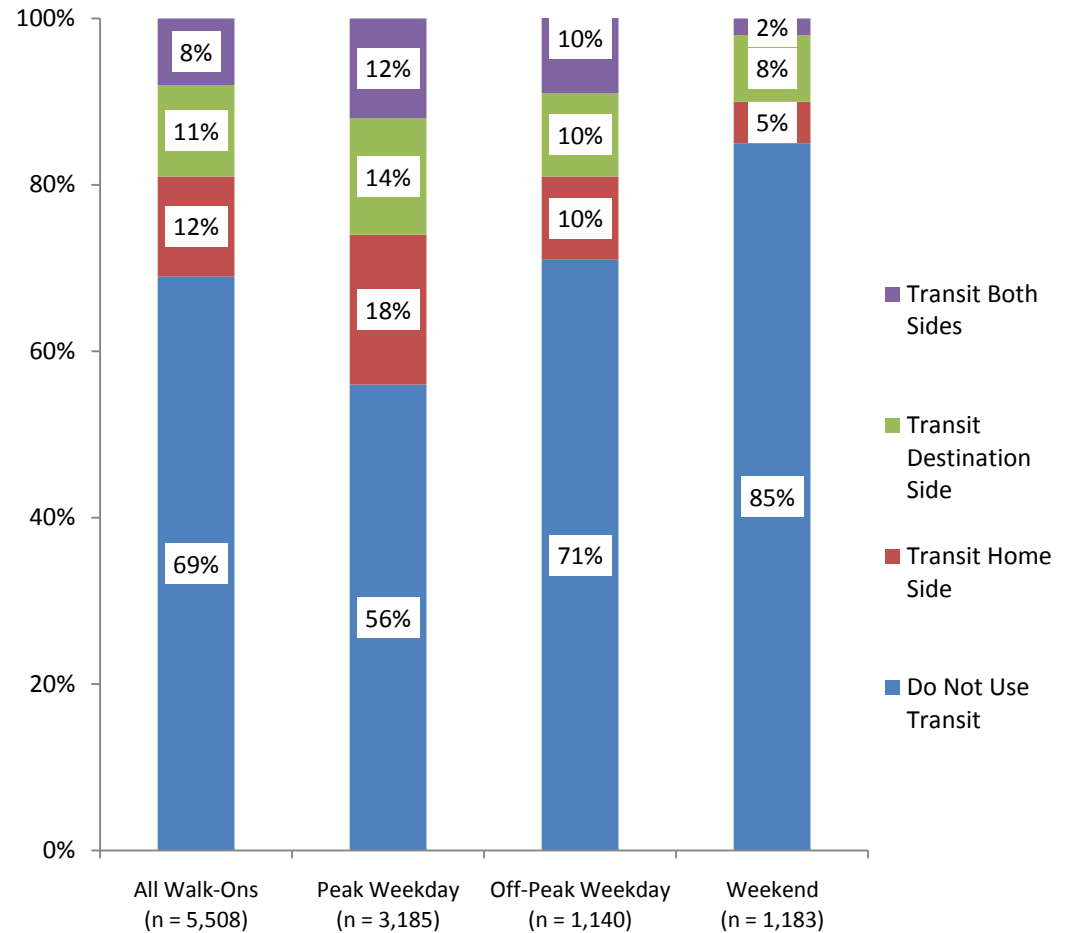
Variable created to reflect transit use from home to ferry and from ferry to final destination.

Time / Day of Travel: Use of Public Transit

Nearly half (44%) of peak weekday walk-on passengers use transit for some of or their entire trip. Consistent with the route level analysis described above, transit use among peak weekday walk-on passengers is highest on four routes:

- Fauntleroy / Vashon – 71 percent use transit.
- Fauntleroy / Southworth – 64 percent use transit.
- Seattle / Bainbridge – 47 percent use transit.
- Seattle / Bremerton – 52 percent use transit.

Figure 3: Walk-On Passengers' Use of Public Transit to Access Ferries by Time / Day of Travel



Question 10A: How did you get to the ferry?

Question 10B: How will you get from the ferry to your final destination?

Variable created to reflect transit use from home to ferry and from ferry to final destination.

Willingness to Use Public Transportation or Other Alternative Modes to Access Ferry

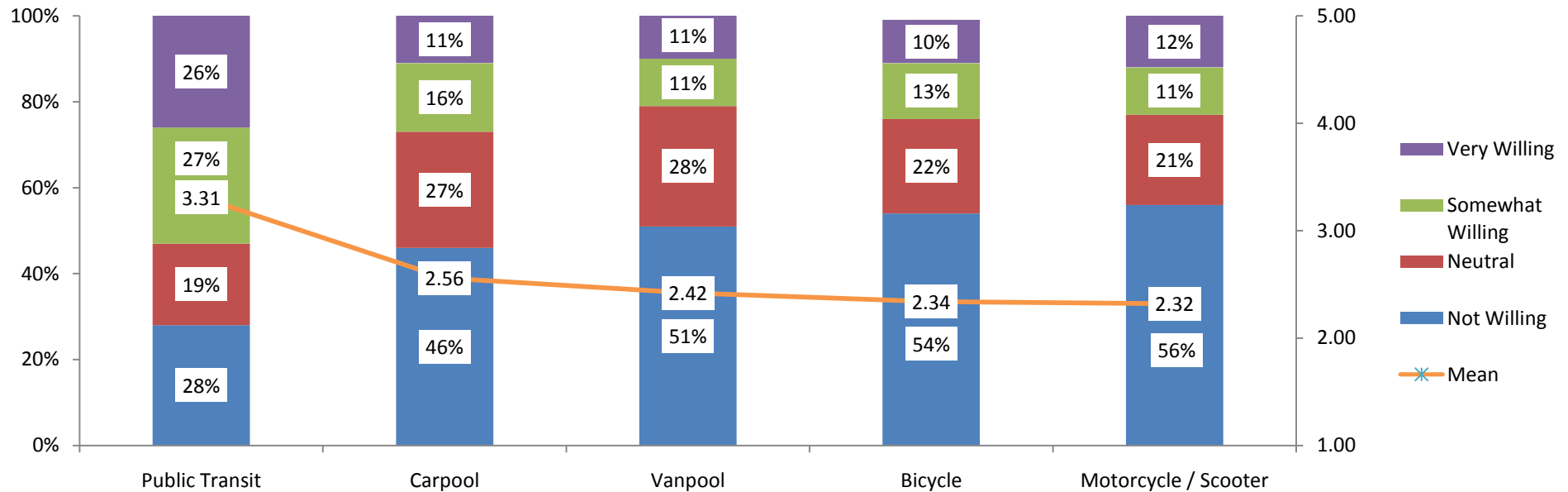
Vehicle drivers and passengers completing the March survey were asked to rate their willingness to use transit or other alternative modes to get to the ferry. Responses were recorded on a five-point scale from “1” meaning “not at all willing” to “5” meaning “very willing.”

All Winter Vehicle Drivers and Passengers

With the exception of public transit, the majority of winter vehicle drivers and passengers are neutral toward or unwilling to use alternative modes to get to the ferry.

Just over half (53%) of all winter vehicle drivers and passengers are willing to use transit. Of particular note is the 26 percent who suggest they are “very willing” to use transit.

Figure 4: Willingness to use Public Transportation or Other Alternative Modes to Access the Ferry



Question: Thinking about different ways of getting to the ferry how willing would you be to: form / join a carpool, form / join a vanpool, use public transportation and walk on, bicycle, ride a motorcycle or scooter?

Base: All Winter Vehicle Drivers and Passengers (n = 2,976)

Boarding Mode Results: Willingness to Use Public Transportation and Other Alternative Modes to Access Ferry

In general, winter vehicle passengers are more likely than winter vehicle drivers to suggest they would be willing to use public transit or an alternative mode such as carpooling or vanpooling. Notably, they are more likely to suggest they would be “very willing” to consider different ways of getting to the ferries.

Again, it is notable that nearly one out of four (23%) winter vehicle drivers are “very willing” to use transit to get to the ferries.

- Even more striking is the finding that 40 percent of winter vehicle drivers who are “very willing” to use transit have transit service available from where they live to the ferries and from where they get off the ferries to their final destination. Thirty-two percent (32%) of winter vehicle drivers who are “somewhat willing” to use transit also have transit service available on both sides of their trip.

This would clearly suggest that factors other than perceived access to transit are barriers to using transit to get to the ferries.

- If WSF could convert the 9 percent of winter vehicle drivers who are “very willing” to use transit and have service available that meets their needs, vehicle trips on the ferry could decrease by 11,268 winter trips per week. If they were also able to convert the 9 percent who are “somewhat willing” to use transit and have service available, winter vehicle trips on the ferry would decrease by an additional 11,680 weekly trips – or a total of 22,948 winter vehicle trips per week.

Table 9: Willingness to Use Public Transportation / Other Alternative Modes by Boarding Mode

		Winter Vehicle Drivers & Passengers (n = 2,976)	Vehicle Drivers (n = 2,358)	Vehicle Passengers (n = 618)
Transit	Very Willing	26%	23%	34%
	Somewhat Willing	27%	27%	27%
Carpool	Very Willing	11%	10%	14%
	Somewhat Willing	16%	15%	17%
Vanpool	Very Willing	11%	9%	15%
	Somewhat Willing	11%	12%	10%
Bicycle	Very Willing	10%	10%	11%
	Somewhat Willing	13%	13%	15%
Motorcycle / Scooter	Very Willing	12%	13%	10%
	Somewhat Willing	11%	11%	10%
Question: Thinking about different ways of getting to the ferry how willing would you be to: form / join a carpool, form / join a vanpool, use public transportation and walk on, bicycle, ride a motorcycle or scooter?				

Route Level Results: Vehicle Drivers' Willingness to Use Public Transportation to Access Ferry

The balance of this section looks in detail at vehicle drivers' willingness and ability to use **existing public transportation services** and the potential for decreasing vehicle travel on the ferries.

Winter vehicle drivers on the Seattle / Bainbridge and Fauntleroy / Vashon routes are the most likely to suggest they would be "very willing" to use transit.

- Over three out of ten (31%) Seattle / Bainbridge winter vehicle drivers suggest they are "very willing" to use public transit. Of these, over half (54%) have public transportation available at both ends of their trip. Converting these winter vehicle drivers to transit would decrease vehicle traffic on the Seattle / Bainbridge route by 4,648 trips per week (winter).
- Twenty-seven percent (27%) of winter Fauntleroy / Vashon vehicle drivers say they are "very willing" to use public transit. Of these, 44 percent report that they have transit available at both ends of their trip. Converting these winter vehicle drivers to transit would decrease vehicle traffic on this route by 2,122 trips per week in the winter.

Table 10: Vehicle Drivers' Willingness to Use Public Transportation to Access the Ferry by Route

	Vehicle Drivers (n=2,358)	SEA/ BAIN (n=628)	SEA/ BRE (n=186)	EDM/ KIN (n=521)	MUK/ CLI (n=361)	FAU/ VAS (n=163)	FAU/ SOU (n=170)	PTD/ TAH (n=66)	KEY/ PTT (n=87)	ANA/ SAN (n=176)
% Very Willing	23%	31%	24%	20%	21%	27%	18%	20%	16%	15%
% Have Access to Transit	40%	54%	35%	24%	42%	44%	44%	50%	26%	<1%
Number of Weekly Vehicle Trips	13,782	4,648	860	1,694	2,959	2,122	602	739	158	0
% Somewhat Willing	27%	27%	28%	25%	28%	32%	27%	20%	29%	33%
% Have Access to Transit	32%	43%	26%	20%	35%	54%	31%	8%	13%	14%
Number of Weekly Vehicle Trips	13,468	3,386	791	1,777	3,324	2,887	622	123	139	419
Total Potential Reduction in Weekly Vehicle Trips	27,250	8,034	1,651	3,471	6,283	5,009	1,224	862	297	419
<i>Question: Thinking about different ways of getting to the ferry how willing would you be to: use public transportation and walk on?</i>										

Time of Day / Week Travel Results: Vehicle Drivers' Willingness to Use Public Transportation to Access Ferry

A specific objective of this research is to gain an understanding of the potential to shift vehicle drivers out of peak travel hours. One way to do this is to shift those winter vehicle drivers who suggest they are willing to use public transportation and who currently have access to transit.

- Nearly one-fourth (23%) of winter peak weekday vehicle drivers say they are "very willing" to use transit. Moreover, 43 percent of these drivers have current access to public transportation both on their home and destination sides. Converting these drivers could result in a decrease in vehicle traffic during peak winter travel periods by 4,708 weekly trips.
- If it is also possible to convert the 33 percent of those winter peak weekday vehicle drivers who are somewhat willing and who have access to transit, winter vehicle traffic would decrease further by 4,188 weekly vehicle trips.

Table 11: Vehicle Drivers' Willingness to Use Transit by Time of Day / Week Travel

	Vehicle Drivers (n =2,358)	Peak Weekday (n = 1,156)	Off-Peak Weekday (n = 619)	Weekend (n = 583)
% Very Willing	23%	23%	20%	26%
% Have Access to Transit	40%	43%	42%	33%
Number of Weekly Vehicle Trips	13,782	4,708	5,535	3,539
% Somewhat Willing	27%	26%	25%	32%
% Have Access to Transit	32%	33%	28%	35%
Number of Weekly Vehicle Trips	13,468	4,188	4,643	4,637
Total Potential Reduction in Weekly Vehicle Trips	27,250	8,896	10,178	8,176
Question: Thinking about different ways of getting to the ferry how willing would you be to: use public transportation and walk on?				

Key Findings – Perceived Ability / Flexibility to Travel at Different Times

Summary: Perceived Flexibility in Traveling at a Different Times

Ability to Travel at a Different Time

A key objective of this research was to identify the extent to which peak weekday vehicle drivers could shift their travel to off-peak travel periods.

- Two out of five (40%) riders report that they have no flexibility in the time they travel. Most likely reflecting the high percentage of commuters in this segment, walk-on passengers are the least flexible – 45 percent cannot take an earlier or later boat.

Two out of five (42%) peak period riders say that they cannot change the time of their primary trip.

- While half (50%) of all peak period travelers suggest that they have some flexibility in the time they travel, this flexibility extends only to taking a trip at some other time during peak travel times.

Only one out of twelve (8%) peak riders – all riders and vehicle drivers – suggest they could take a ferry that would be in an off-peak travel period.

- Despite the relatively small percentage, this would translate into a total of 12,112 weekly trips in the winter and 12,928 weekly trips in the summer.
 - Of these trips, 4,606 winter trips are vehicle trips and 4,894 summer trips are vehicle trips.

Perceptions of What Trips are Discretionary versus Non-Discretionary

Participants in the Price Sensitivity Research were asked to indicate which types of trips they considered to be non-discretionary – i.e., they feel they have little control over when they can travel – versus discretionary – i.e., they feel they have some control over when they can travel.

- Peak vehicle drivers clearly feel that commute trips and those activities that are related to work (e.g., business appointments) are non-discretionary in nature – that is, they feel that they have **little or no control** over when they must take it. Sixty-nine percent (69%) of peak vehicle drivers suggest they have little control over the time they take their commute trip; 61 percent feels they have little control over the timing of trips related to other business or work-related activities.
- Some peak vehicle drivers also feel that they have limited control over when they travel for medical appointments (31%) and/or special events (34%).

Detailed Findings: Perceived Flexibility in Traveling at a Different Time

A key objective of this research was to identify the extent to which peak weekday vehicle drivers could shift their travel to off-peak travel periods. To accomplish this objective, respondents were assigned to a trip time based on the trip for which they were sampled. They were then asked if they could have taken an earlier or later boat.

Overall Perceived Flexibility to Take an Earlier / Later Boat

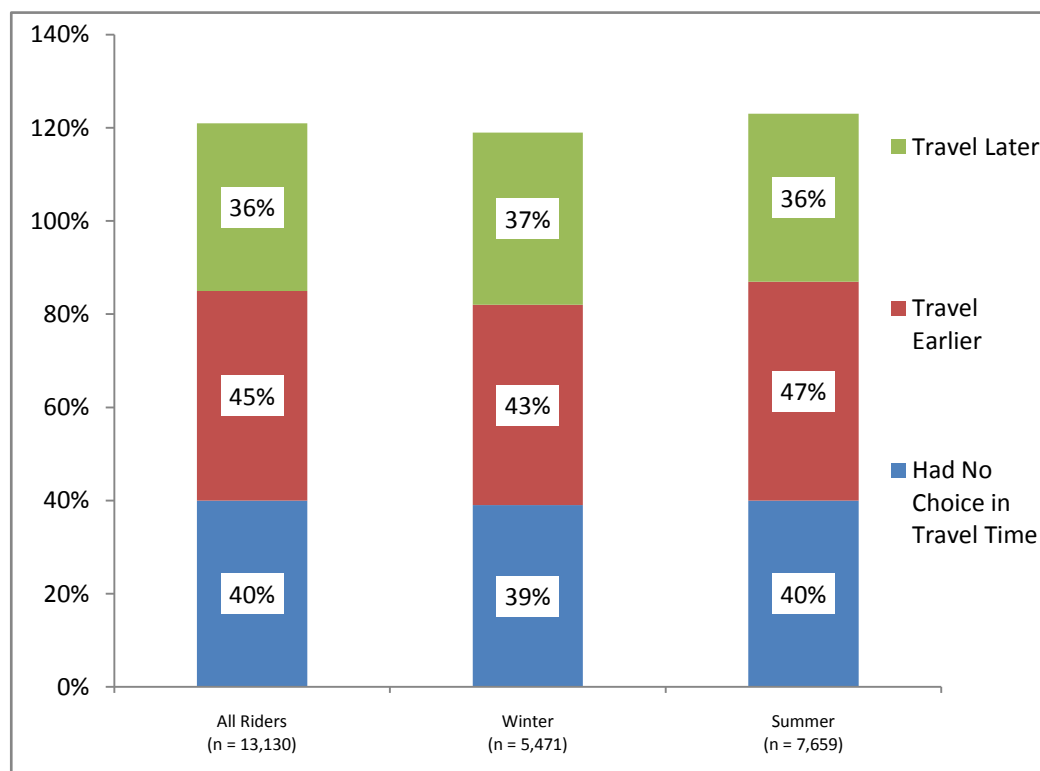
All Riders

At the most basic level of analysis, three out of five (60%) WSF riders suggest they could have taken an earlier or later boat. This analysis does not indicate if they could take a boat that is outside of their current travel periods and could potentially reduce vehicle demand. Instead, this analysis is useful in gaining insights into riders' overall perceptions that they could change the time they travel.

- Forty-five percent (45%) suggests they could travel earlier; somewhat fewer (36%) say they could travel later.
- Twenty-one percent (21%) could have taken either an earlier or a later boat.
- There are no differences between travel periods.

Perhaps most insightful is that two out of five (40%) riders suggest that they have no choice at all in the time they make their most frequent trip – that is, they could not take an earlier or later boat.

Figure 5: Overall Perceived Flexibility to Take an Earlier / Later Boat by Boarding Mode



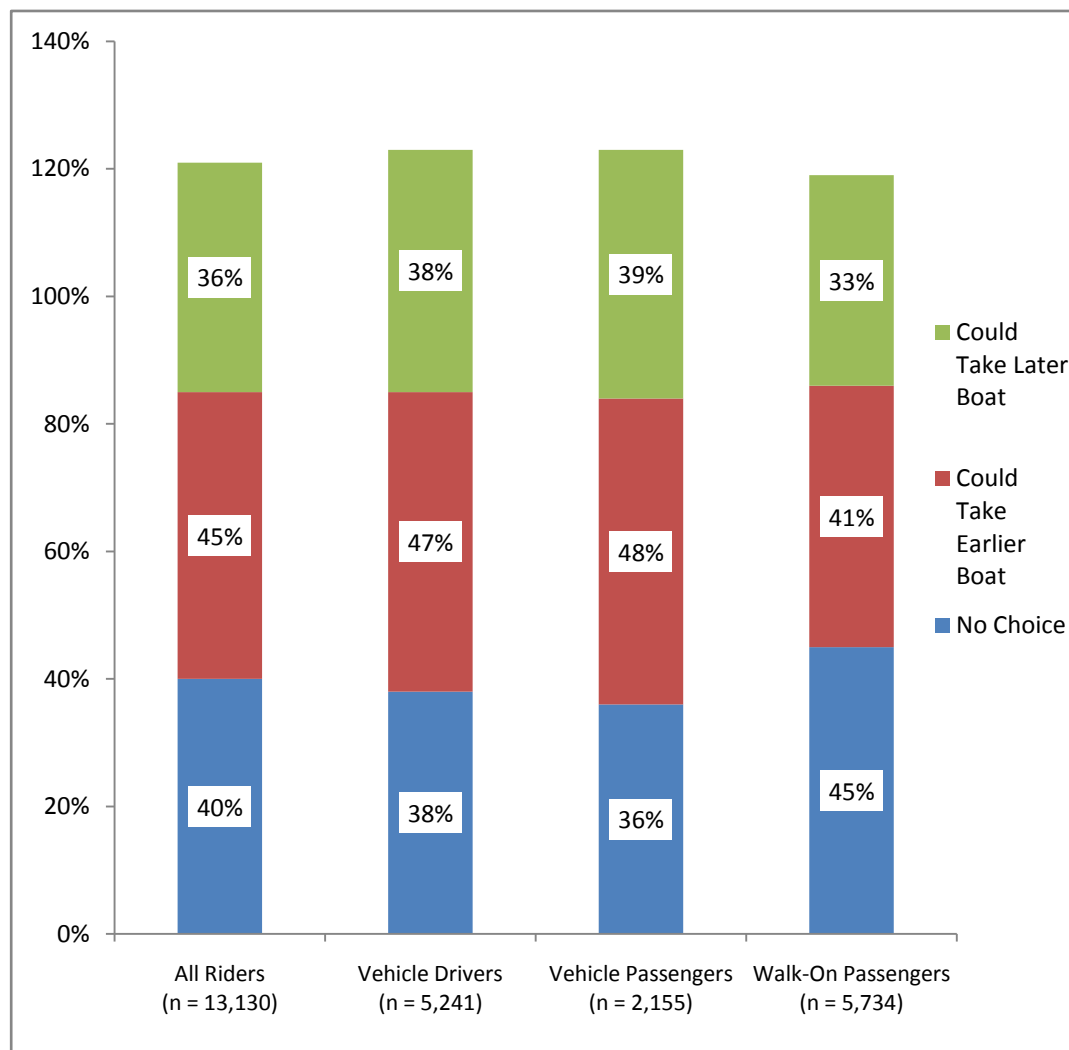
Question: Could you have taken an earlier or later boat for this trip?
Columns sum to more than 100 percent; multiple responses allowed.

Boarding Mode Analysis: Overall Ability to Take an Earlier / Later Boat

Walk-on riders are clearly the most inflexible riders – 45 percent said they had no option to take a boat other than the one they took.

- This finding is significant in two ways. It could suggest that:
 - Walk-on passengers have already modified their travel behavior – that is they walk on instead of driving on – and they are, therefore unwilling / unable to modify their behavior further.
 - There are no differences between vehicle drivers and passengers – suggesting that one segment is driving the behavior of others. It is most likely that the vehicle driver is the primary decision-maker.

Figure 6: Overall Perceived Flexibility to Take an Earlier / Later Boat by Route



Question: Could you have taken an earlier or later boat for this trip?
Columns sum to more than 100 percent; multiple responses allowed.

Route Level Analysis: Overall Flexibility to Take an Earlier / Later Boat

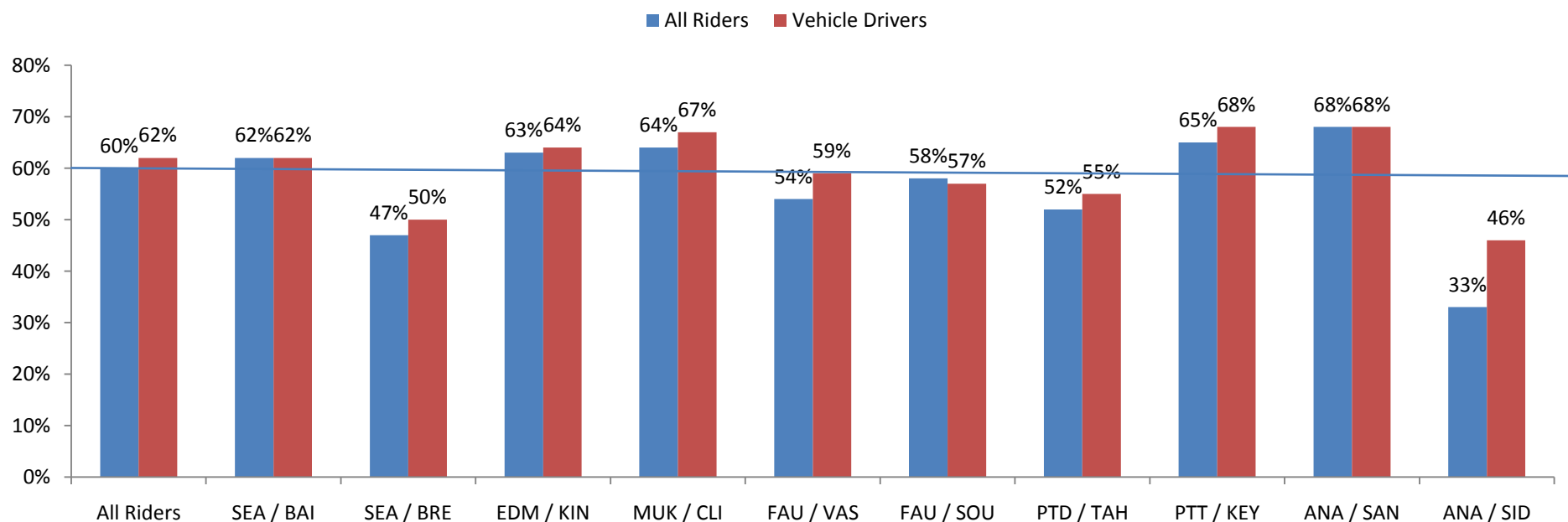
It is very clear that riders on the Seattle / Bremerton route see themselves as the most inflexible – only 47 percent says they could have taken an earlier or later boat; 53 percent says they could not. This is most likely driven by the high percentage of riders that currently walk onto the ferry; the analysis on the previous page shows that walk-on passengers are less flexible.

Riders on the three South Sound routes also see themselves as relatively inflexible. These routes all have a relatively high percentage of vehicle drivers.

Of particular note are the three largest routes (in terms of ridership) – Seattle / Bainbridge, Edmonds / Kingston, and Mukilteo / Clinton – all of which suggest some degree of flexibility.

There are no significant differences in flexibility between riders overall and vehicle drivers.

Figure 7: Overall Flexibility to Take an Earlier / Later Boat by Route



Question: Could you have taken an earlier or later boat for this trip?

Columns sum to more than 100 percent; multiple responses allowed.

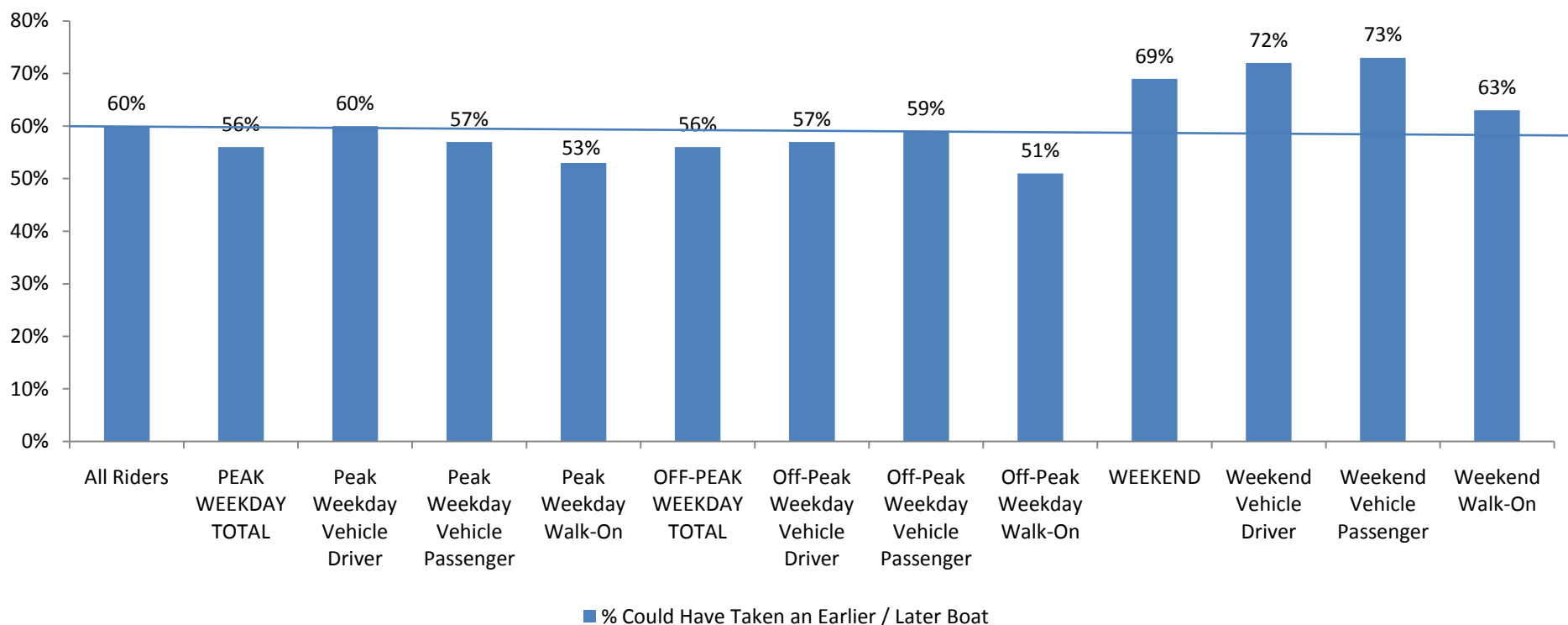
Time of Day / Week Travel Analysis: Overall Flexibility to Take an Earlier / Later Boat

There are no differences in perceived flexibility of boarding times between peak and off-peak weekday riders – 56 percent say they could take a different boat; 44 percent say they could not.

- Again, walk-on passengers are the least flexible within all travel periods.

It is clear and not surprising that weekend travelers see themselves as more flexible. Because of the nature of their trips, these riders could choose to not take their trip at all.

Figure 8: Overall Flexibility to Take an Earlier / Later Boat by Time of Day / Week Travel



Question: Could you have taken an earlier or later boat for this trip?

Columns sum to more than 100 percent; multiple responses allowed.

Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times

Respondents who said they could take an earlier or later boat than the one they were on for their sampled trip were asked to indicate how much earlier / later. Respondents were then grouped into four segments: (1) peak riders who could travel at a different time and that time was outside of current peak travel periods, (2) peak riders who could travel at different times but those times remained within peak travel periods, (3) peak riders who could not travel at a different time, and (4) all off-peak / weekend riders. As the focus of this study is to identify the extent to which current peak weekday and weekend travelers could shift to off-peak travel periods, those traveling during off-peak weekday or on weekends are not included. In addition, riders on the Port Townsend / Keystone, Anacortes / San Juans, and Anacortes / Sidney routes are not included as their peak travel periods are not the same as the other routes.

All Riders

Two out of five (42%) peak period riders say that they cannot change the time of their primary trip.

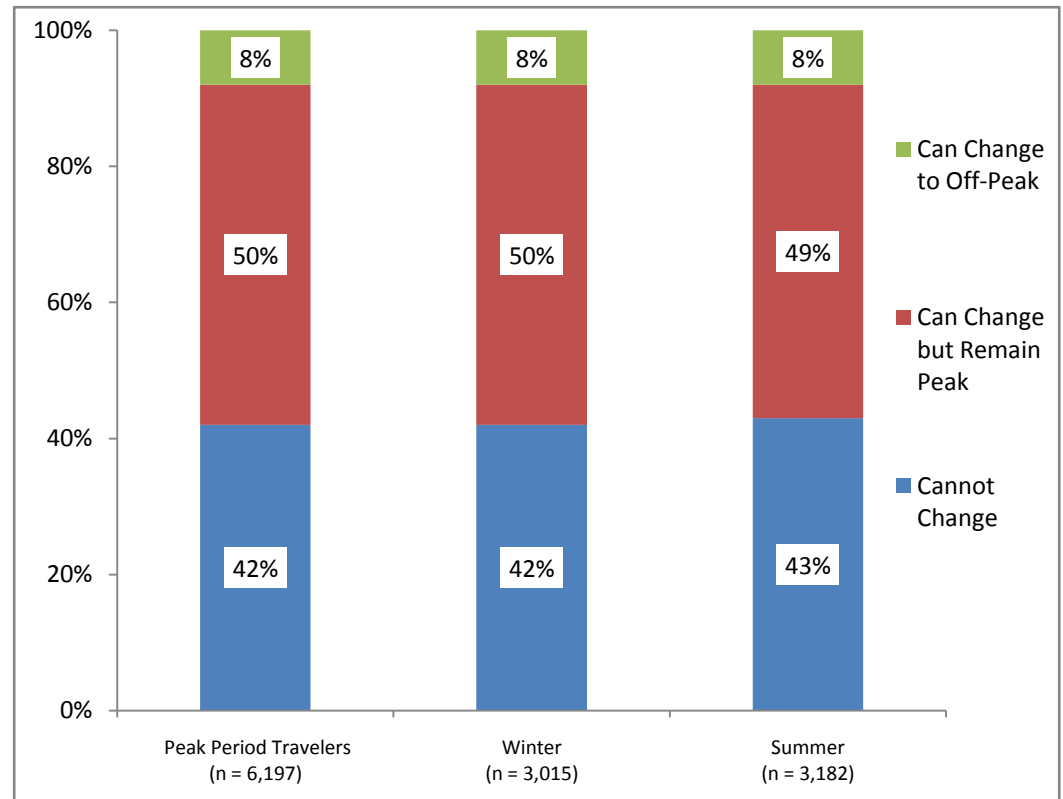
- There are no differences between winter and summer travel periods.

While half (50%) of all peak period travelers suggest that they have some flexibility in the time they travel, this flexibility extends only to taking a trip at some other time during peak travel times.

Only one out of twelve (8%) peak riders suggest they could take a ferry that would be in an off-peak travel period.

- Despite the relatively small percentage, this would translate into a total of 12,112 weekly trips (vehicle and walk-on) in the winter and 12,928 weekly trips in the summer.

Figure 9: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times



Boarding Mode Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times

As noted earlier, walk-on passengers are the least flexible.

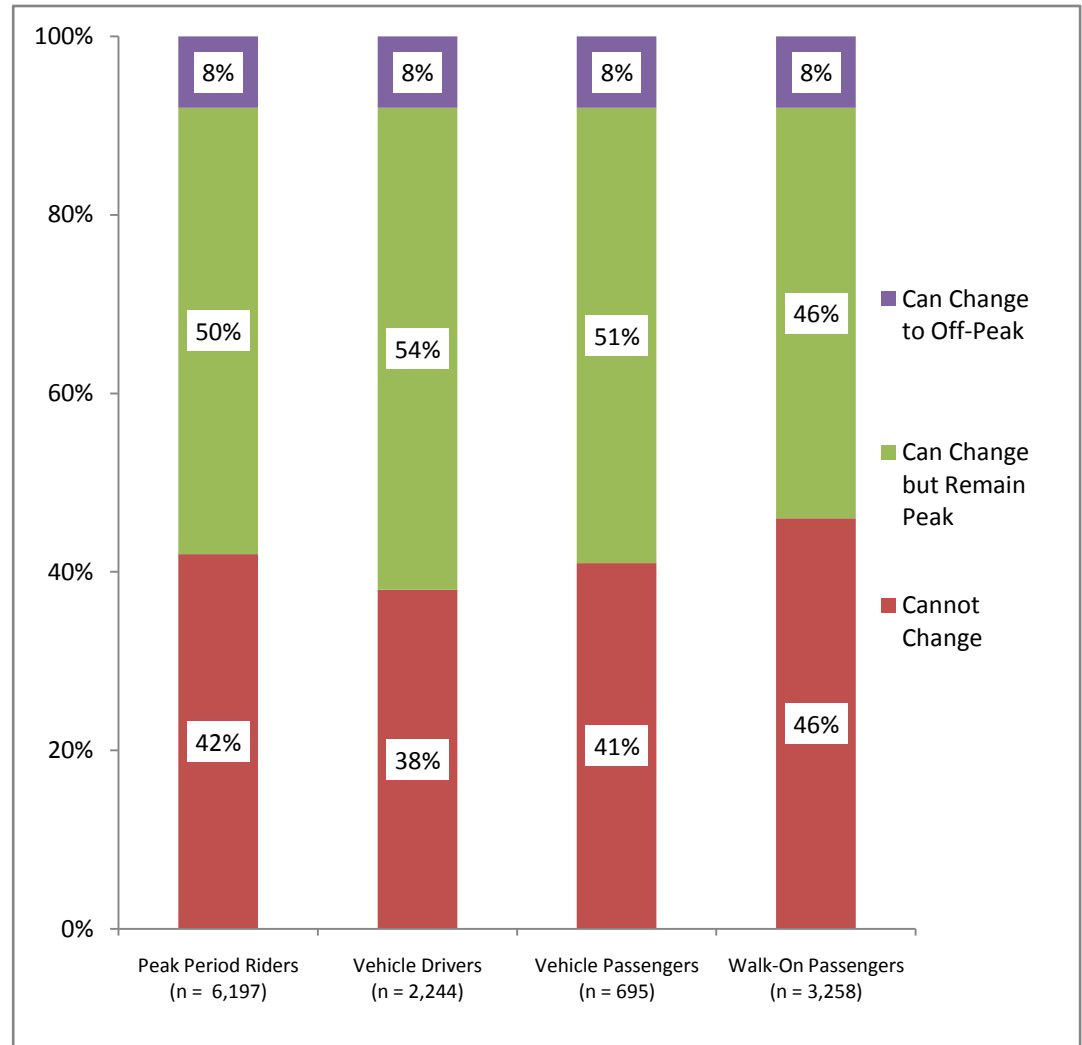
Eight percent (8%) of vehicle drivers suggest that they could change from a peak to an off-peak travel period. There are no differences between winter and summer travel periods.

- This translates to 4,606 vehicle trips weekly in the winter and 4,894 weekly trips in the summer.

The same percentage (8%) of vehicle passengers also suggests that they could change from a peak to an off-peak travel period. Again, there are no differences between winter and summer travel periods.

- This translates to 2,019 weekly vehicle passenger trips in the winter and 2,392 weekly vehicle passenger trips in the summer. However, care should be taken in assuming that this would reduce vehicle load by these amounts as most vehicle passenger figures may be included in the vehicle driver figures.

Figure 10: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Boarding Mode



Question: Could you have taken an earlier or later boat for this trip?
Columns sum to more than 100 percent; multiple responses allowed.

Route Level Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times

With the exception of Fauntleroy / Vashon and Point Defiance / Tahlequah, there are no significant differences between routes in the extent to which riders can shift their travel times.

- Fauntleroy / Vashon and Point Defiance / Tahlequah riders are less likely than riders on other routes to suggest that they cannot change or that they can only change within peak travel periods. Looking at vehicle drivers only, no Point Defiance / Tahlequah riders say that they could travel outside of peak travel periods.

Overall, it could be possible to shift 4,606 winter vehicle trips per week and 4,894 summer vehicle trips per week from peak to off-peak travel periods.

- Shifting vehicle trips from peak to off-peak travel periods would have the most effect on the Edmonds / Kingston and Mukilteo / Clinton routes – decreasing weekly vehicle trips by 800 to 1,600 trips per week on the Edmonds / Kingston route and an average of 1,300 trips per week on the Mukilteo / Clinton route.
- It is particularly important to note that while generally there are no differences between summer and winter travel periods, Edmonds / Kingston is the exception. Thirteen percent (13%) of peak vehicle drivers on this route could change when they travel to an off-peak time in the winter; this figure drops to 6 percent in the summer.

Table 12: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Route

	All Peak Period Riders (n=6,197)	SEA/ BAIN (n=2,405)	SEA/ BRE (n=1,007)	EDM/ KIN (n=1,181)	MUK/ CLI (n=942)	FAU/ VAS (n=272)	FAU/ SOU (n=300)	PTD/ TAH (n=90)
All Peak Period Riders								
Can Change / Move to Off-Peak	8%	9%	9%	8%	9%	4%	10%	1%
# of Winter Trips	12,112	3,698	2,785	2,950	2,193	236	128	123
# of Summer Trips	12,928	5,048	1,661	1,631	2,566	867	1,155	-
Can Change / Stay in Peak	50%	50%	37%	54%	57%	49%	41%	54%
# of Winter Trips	74,887	25,869	8,829	12,190	13,878	7,449	2,734	3,939
# of Summer Trips	80,334	22,379	13,863	10,321	9,292	6,020	3,881	4,091
Cannot Change	42%	41%	54%	37%	34%	47%	49%	45%
# of Winter Trips	62,451	18,774	12,684	10,415	8,753	6,431	2,316	3,077
# of Summer Trips	69,847	24,669	9,329	17,992	16,015	5,336	2,358	4,636
Vehicle Drivers								
Can Change / Move to Off-Peak	8%	8%	11%	9%	10%	7%	9%	
# of Winter Trips	4,606	720	650	1,640	1,283	236	77	-
# of Summer Trips	4,894	1,201	407	796	1,321	750	418	-
Can Change / Stay in Peak	54%	54%	42%	55%	58%	55%	45%	60%
# of Winter Trips	31,050	7,145	2,296	6,046	6,692	4,487	1,430	2,954
# of Summer Trips	29,807	6,012	1,888	8,084	7,735	3,000	1,180	1,909
Cannot Change	38%	38%	48%	36%	32%	38%	46%	40%
# of Winter Trips	21,564	4,426	2,368	4,699	4,227	2,717	911	2,216
# of Summer Trips	20,691	4,908	2,371	4,576	3,635	2,400	1,711	1,091

Time of Day / Week Travel Analysis: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times

Peak weekday riders are more likely than peak weekend travelers to be able to shift to an off-peak travel period.

- Nine percent (9%) of peak weekday vehicle drivers can shift to an off-peak travel period. This would equal 3,231 weekly trips in the winter and 4,788 weekly trips in the summer.

Table 13: Extent to Which Current Peak Hour Travelers Could Shift to Off-Peak Travel Times by Time of Day / Week Travel

	All Peak Period Riders (n = 6,197)	Total Peak Weekday (n = 5,627)	Vehicle Driver (n = 1,959)	Vehicle Passenger (n = 548)	Walk-On Passenger (n = 3,120)	Total Peak Weekend (n = 570)	Vehicle Driver (n = 285)	Vehicle Passenger (n = 147))	Walk-On Passenger (n = 138)
Can Change / Move to Off-Peak	8%	9%	9%	10%	8%	4%	6%	4%	2%
# of Winter Trips	12,112	9,968	3,231	1,472	2,145	1,375	547	223	-
# of Summer Trips	12,928	12,670	4,788	2,240	5,642	258	106	152	-
Can Change / Stay in Peak	50%	46%	50%	40%	45%	67%	69%	73%	56%
# of Winter Trips	62,451	61,845	21,453	9,979	30,414	18,489	8,354	7,224	2,911
# of Summer Trips	69,847	21,453	9,979	30,414	18,489	8,354	7,224	2,911	-
Cannot Change	42%	45%	41%	50%	47%	28%	25%	23%	42%
# of Winter Trips	62,451	54,220	18,977	82,40	82,30	2,587	1,969	3,675	-
# of Summer Trips	80,334	62,871	17,186	10,845	34,841	6,976	3,506	1,907	1,563

Other Significant Findings: Extent to Which Current Peak Weekday Vehicle Drivers Could Shift to Off-Peak Travel Times by Purpose of Sampled Trip

Commuters who drive onto the ferry during peak weekday travel periods, both summer and winter, are the least likely to say that they could take another ferry that is in an off-peak travel period.

- Despite this seemingly small number (5% of all commuters), encouraging these riders to shift travel could result in a decrease in peak day vehicle trips of 1,318 weekly trips in the winter and 1,812 weekly trips in the summer.

What is noteworthy is the relatively high percentage of peak weekday vehicle drivers who are traveling for non-commute purposes who suggest they can shift. Of particular note are the significant number of summer recreational travelers (27%) and those traveling to visit friends and family (23%) who are driving onto the ferries during peak weekday travel periods who say they could shift their travel to a different time and the number of winter riders who are shoppers (14%).

- Shifting non-commute trips to an off-peak period could increase vehicle capacity by 3,396 weekly vehicle trips in the winter and more than twice that (7,034) in the summer.

While it is clearly not feasible to charge a higher fare based on the type of trip, discounts during off-peak periods could have a significant impact on vehicle capacity on the ferry. However, given the current fares they pay and their seeming indifference to the fare, a relatively significant discount may be required to encourage a shift in travel behavior from peak to off-peak travel periods.

Table 14: Extent to Which Current Peak Weekday Vehicle Drivers Could Shift to Off-Peak Travel Times by Purpose of Sampled Trip

	Peak Weekday Vehicle Drivers					
	All (n = 1,063)	Commute (n = 452)	Personal / Shop (n = 220)	Recreation (n = 145)	Social (n = 94)	Other (n = 136)
	Winter					
	9%	5%	14%	11%	17%	12%
	5,128	1,318	1,691	455	618	832
	Summer					
	16%	8%	14%	27%	23%	16%
	9,020	1,812	1,629	3,219	1,132	1,054

Perceptions of What Trips are Discretionary versus Non-Discretionary

In the Price Sensitivity Survey, respondents were asked to indicate whether they feel a trip is non-discretionary in nature – that is, they feel they have little control over when they can take the trip – or discretionary – that is, they feel they have some control over when they travel. Results from this question provide further insight into riders' perceptions of their ability or flexibility to travel at different times.

Peak vehicle drivers clearly feel that commute trips and those activities that are related to work (e.g., business appointments) are non-discretionary in nature – that is, they feel that they have **little or no control** over when they must take it.

- Some peak vehicle drivers also feel that that they have limited control over when they travel for medical appointments (31%) and/or special events (34%).

Table 15: Perceptions of What Trips are Discretionary versus Non-Discretionary

Trip Type	% of Respondents Who Perceive that Trip Type is. . .		
	Non-Discretionary	Discretionary	Never Take
Commute	69%	18%	13%
Work-Related Business Activity	61%	26%	13%
Personal Business	8%	87%	5%
Medical Appointments	31%	45%	24%
Shopping	2%	41%	24%
Recreation	4%	88%	8%
Special Events	34%	59%	7%
Airport	7%	85%	8%

Key Findings – Shifting Vehicle Demand through Fare Strategies

Overview of Approach

Following is a brief description of the methodology used for this phase of the research. A more detailed explanation of the approach as well as the questionnaire can be found in the Appendix.

To measure how riders would react to different fare strategies we used a choice-based conjoint (CBC) study. Choice-based conjoint is both a data collection and analytical method that simulates the actual consumer decision process when presented with different alternatives. This research looks at the trade-offs that ferry riders are likely to make when deciding what mode to use and when to travel under different fares.

The structure of the choice-based conjoint exercise was developed collaboratively between Opinion Research Corporation (ORC), the Washington State Transportation Commission (WSTC), Washington State Ferries (WSF), and other consultants working for those entities. It was designed to follow the approach commonly used for transportation choice modeling, also known as a stated preference (SP) survey. In this approach, respondents are asked to describe their most recent trip using the mode of interest (in this case driving on the ferry). They are then presented with realistic alternatives for making that trip and asked to select the one that they would most likely choose under those circumstances. The use of a specific past trip as a point of reference is important in these surveys because travel decisions are commonly quite context specific – travelers have specific needs and constraints that vary considerably from day-to-day and from trip to trip and an average or typical trip does not reflect those real needs and constraints.

Transportation research suggests that the trade-off between the amount of time it takes to make the trip and the cost of the trip are the two primary drivers of the mode choice decision. For example, people may be willing to pay more if the trip takes less time. Other factors may also affect mode choice and/or their willingness to pay more for a trip. For example, people making trips where they have little or no discretion as to the time they have to arrive at their destination – e.g., a work trip, a scheduled flight, a medical appointment – may be less sensitive to a fare increase than those whose trip purpose is seen as more flexible.

Respondents were asked to describe two of their most recent trips. The first was a trip that the respondent self-defined as non-discretionary – that is, a trip that riders feel they have little or no control over when they take it. The second trip is one they self-defined as discretionary – that is, a trip that riders feel they have some degree of control over when they take it. Moreover, they were asked to describe those trips for which they drove onto the ferry during peak travel times. If they didn't drive on during peak time, they were asked to describe their most recent discretionary and/or non-discretionary trip in a vehicle during off-peak travel periods. Respondents were asked to consider a series of different trips that varied by the departure time, the amount of time they would have to arrive in advance in order to drive onto the boat for that trip, and the fare for the trip.

They were then asked to choose among five options for taking the trip under these different conditions:

1. Drive-on the sailing chosen for the most recent trip,
2. Drive-on an earlier sailing,
3. Drive-on a later sailing,
4. Walk-on the sailing chosen for the most recent trip ,or
5. Make the trip some other way or not at all.

Following is an example of how the question appeared on the screen. Depending on whether the respondent takes non-discretionary and/or discretionary trips, they were presented with as few as 6 trips (those taking discretionary trips only) up to as many as 16 trips (those taking both discretionary and non-discretionary trips).

Imagine that WSF came up with a new pricing schedule. Thinking about your recent **NON-discretionary** trip ([Purpose from Screen 22]), if these were your only options, which would you choose?

<p>I would Walk on the Current ferry that departs at</p> <p>4:00pm where I need to be at the terminal 5 min before departure</p> <p>and where the one-way fare is \$1.60</p> <p><input type="radio"/></p>	<p>I would Drive on the Current ferry that departs at</p> <p>4:00pm where I need to be at the terminal 60 min before departure</p> <p>and where the one-way fare is \$14.55</p> <p><input type="radio"/></p>	<p>I would Drive on the earlier ferry that departs at</p> <p>2:30pm where I need to be at the terminal 5 min before departure</p> <p>and where the one- way fare is \$16.65</p> <p><input checked="" type="radio"/></p>	<p>I would Drive on the later ferry that departs at</p> <p>4:45pm where I need to be at the terminal 5 min before departure</p> <p>and where the one- way fare is \$14.55</p> <p><input type="radio"/></p>	<p>NONE: I would NOT make this NON-discretionary trip</p> <p>Given these drive-on and walk-on options/fares , I would just not use the ferries and find some other way to accomplish my trip purpose (either on- island or combined with another trip or not at all such as changing jobs)</p> <p><input type="radio"/></p>
--	---	--	---	--

Choose by clicking one of the buttons above.

Participants were drawn from respondents to the March On-Board Survey who agreed to participate in additional research. A total of 688 WSF riders who drive onto the ferries at least some of the time provided potential mode/time shift data about one or more of their trips. Details on the characteristics of these respondents are provided below. Two hundred seventy one (271) respondents (or 39%) only took what they consider to be non-discretionary trips and 267 respondents (or 39%) only took what they consider to be discretionary trips. These respondents provided data only for the respective trip they took. Finally, 150 respondents (or 22%) took both discretionary and non-discretionary trips. These respondents provided data on both types of trips. Thus, 688 vehicle drivers provided data on a total of 838 different trips.

Summary: Shifting Vehicle Demand through Fare Strategies

To determine the extent to which riders might be willing to change their travel behaviors as a result of changes to fare policies, respondents were shown a number of different scenarios which varied the three factors: (1) sailing time, (2) the amount of time the vehicle driver would need to arrive in advance for the departure time and (3) the fare for the trip. For each scenario, respondents were given the choice to drive on to an earlier or later boat, continue to drive on during peak travel times, walk on during peak times, or not make the trip at all.

Analysis of the choices respondents made when given the numerous different scenarios, provides a look at how vehicle drivers' behavior would change when presented with different fare and non-fare options. As a function of this analysis, a "base case" is generated from the data that shows how respondents would react to the current situations (these are the most likely levels for each of the fare/non-fare options found today). The "base case" used for this analysis is explained fully at the beginning of the detailed findings section below. The demand shift analysis caused by changing the key fare and non-fare options is then related back to the "base case" to provide a measure of the potential shift movements.

Although there are numerous combinations of fare/non-fare options that could be tested, three primary pricing strategies are analyzed to determine their effect on peak vehicle demand as well as overall vehicle driving behavior. The strategies include:

1. An across-the-board fare increase;
2. Increasing vehicle fares while maintaining or decreasing walk-on fares; and/or
3. Increasing peak vehicle fares while maintaining or decreasing off-peak vehicle fares.

Impact of an Across-the-board Fare Increase

An across-the-board increase in both vehicle and walk-on fares would have some impact on peak vehicle drivers' travel behavior. Specifically. . .

- A 20 percent increase in both vehicle and walk-on fares would result in a 9 percent decrease in the percentage of peak vehicle drivers who would choose to drive on at peak – from 63 percent choosing to drive on during peak travel periods under the current fare to 58 percent under a 20 percent increase. Increasing both vehicle and walk-on fares to 40 percent above the current fare would result in an 18 percent total decrease from current levels in the percent of peak drive-on traffic – from 63 percent choosing to drive on at peak under the current fare to 51 percent with a 40 percent increase.

An across-the-board increase in vehicle and walk-on fares also has a slight impact on vehicle drivers' propensity to walk on. Specifically. . .

- A 20 percent across-the-board increase in fares would result in a 9 percent increase in the percentage of peak vehicle drivers who would choose to walk on the ferries at peak – from a 20 percent walk on level (base case) at the current fares to 22 percent with the fare increase. Further increasing both vehicle and walk-on fares to 40 percent above current levels would potentially result in a 17 percent total increase in walk-on passengers (over levels with current base case fares) – from 20 percent walk-on at current fares to 24 percent with a 40 percent increase.

Finally, an across-the-board increase in vehicle and walk-on fares could potentially impact overall system ridership. Specifically. . .

- Increasing both vehicle and walk-on fares by 20 percent could have the effect of increasing the percentage of peak vehicle drivers who would choose to not take a trip by 53 percent (a change of 5 percentage points) – from 8 percent in the base case scenario to 13 percent with a 20 percent across-the-board fare increase. Increasing both vehicle and walk-on fares by 40 percent could have the effect of increasing the percentage of peak vehicle drivers who choose to not make the trip by 116 percent (a change of 10 percentage points) – from 8 (under the current fare) to 18 percent (under a 40 percent fare increase).

Impact of Raising Vehicle Fares while Maintaining or Decreasing Walk-On-Fares

Increasing both peak and off-peak vehicle fares while maintaining walk-on fares has approximately the same impact on peak drive-on travel behavior as the across-the-board fare increase discussed above.

- The potential drop in peak vehicle traffic with a 20 percent increase in peak and off-peak vehicle fares is 10 percent compared with a 9 percent drop with an across-the-board fare increase. With a 60 percent increase in vehicle fares, the potential change in peak drive-on travel is 30 percent compared with 28 percent for an across-the-board fare increase. This would suggest that just raising peak/off-peak vehicle fares will not compel vehicle riders to shift mode to walking in large numbers. This finding is also the same as observed in the price sensitivity study where vehicle fares were found to be inelastic – that is, raising vehicle fares did not cause a corresponding change in vehicle drive-on behavior.

Impact of Raising Peak Vehicle Fares while Maintaining or Decreasing Off-Peak Vehicle Fares

A key piece of analysis in this research is to gain an understanding of the potential impact on peak drive-on traffic if a congestion pricing program is introduced. The analysis clearly demonstrates that increasing peak period vehicle fares while maintaining or decreasing off-peak vehicle fares could potentially have a dramatic effect on peak drive-on travel behavior.

- Increasing peak vehicle fares by 20 percent while maintaining current fares during off-peak travel periods could have the potential effect of decreasing the percentage of peak drivers choosing to drive on during peak periods by 16 percent – from 63 percent choosing to drive on during peak under the current fare structure to 53 percent caused by the increased spread between peak and off-peak fares. Increasing vehicle fares by 40 percent doubles the decrease (to 33%) – from 63 percent choosing to drive on under the current fare structure (all vehicles pay the same fare regardless of travel times) to 43 percent under a policy where vehicle drivers who choose to drive on during peak pay 40 percent more than those who drive on off-peak.
- As important, there is an increase in the percentage of peak vehicle drivers who would choose to drive off-peak as the spread between peak and off-peak vehicle fares increases. The percentage of peak vehicle drivers who would choose to drive off-peak would increase by 13 percent – from 9 percent under the current same peak / off-peak fare structure to 13 percent with a 20 percent spread in peak/off-peak vehicle fares.
- Implementing a congestion pricing fare structure has approximately the same impact on peak vehicle drivers' decision to not take the trip as the other fare policies tested.

Going a step further and combining an increase in peak vehicle fares with a smaller or equivalent decrease in off-peak fares would have an even more dramatic effect on shifting peak vehicle drivers to off-peak times and, to a lesser extent, other modes.

- Increasing peak vehicle fares by 40 percent and decreasing off-peak vehicle fares by 20 percent would have the potential effect of decreasing the percentage that would drive on during peak by 40 percent compared with 33 percent if off-peak fares remained at current levels. Decreasing current fares during off-peak fares by 40 percent would further decrease the percentage that would choose to drive on during peak periods by 64 percent.
- At the same time, if peak vehicle fares are increased by 40 percent and off-peak fares are decreased by a smaller amount (20%), the percentage of vehicle drivers choosing to drive on during off-peak would more than double – from 9 percent under the current fare structure to 25 percent under the proposed congestion pricing proposal.

Increasing peak vehicle fares or decreasing off-peak vehicle fares relative to current vehicle fares or providing a combination of the two has the potential to increase the percent of vehicle drivers who will shift their travel away from peak times.

- Increasing vehicle fares during peak travel periods by the maximum fare increase tested (120% over the current vehicle fare) while maintaining off-peak vehicle fares at current levels would have the potential effect of decreasing peak period drive-on behavior by 74 percent – 63 percent of peak vehicle drivers choosing to drive on the ferry during peak times under the current fare to 16 percent if peak vehicle fares are increased by 120 percent.
- Increasing vehicle fares during peak travel periods by the maximum fare increase amount (120%) while decreasing off-peak vehicle fares by 20 percent only has the effect of decreasing peak period drive-on behavior by 77 percent instead of 74 percent as described above.

What the decrease in off-peak fares may accomplish is to limit the potentially negative effect on overall ridership – that is, peak vehicle drivers choosing not to take the trip at all.

- Increasing peak vehicle fares during peak travel periods by the maximum amount (120% over current levels) without a decrease during off-peak travel periods has the effect of potentially decreasing actual system ridership by 179 percent -- from 8 percent of peak vehicle drivers choosing not to take the trip under the base case (current fares) to 23 percent with a 120 percent increase in vehicle fares during peak travel periods.
- If peak vehicle fares are increased by 120 percent and off-peak vehicle fares are decreased 20 percent from current levels, the impact on system ridership would potentially be a decrease of 139 percent compared to the 179 percent scenario described above. If off-peak fares were decreased by 40 percent from the current levels, the impact on ridership would only be a 102 percent increase in the percentage choosing not to take the trip at all.

Detailed Findings: Shifting Vehicle Demand through Fare Strategies

Analysis of data from the Price Sensitivity Study provides a look at how riders' behavior would change when presented with different fare and non-fare options. To determine the extent to which riders might be willing to change their travel behaviors as a result of changes to fare policies, study participants were shown up to 16 different trips. Each trip had a different fare as well as different departure times and requirements for the amount of time a driver would need to arrive in advance of the ferry to make the scheduled departure.

Study participants were presented with four different trip options at a time. They were then asked to indicate what they would do under these scenarios. The options were to:

1. Drive-on the sailing chosen for the most recent trip,
2. Drive-on an earlier sailing,
3. Drive-on a later sailing,
4. Walk-on the sailing chosen for the most recent trip, or
5. Make the trip some other way or not at all.

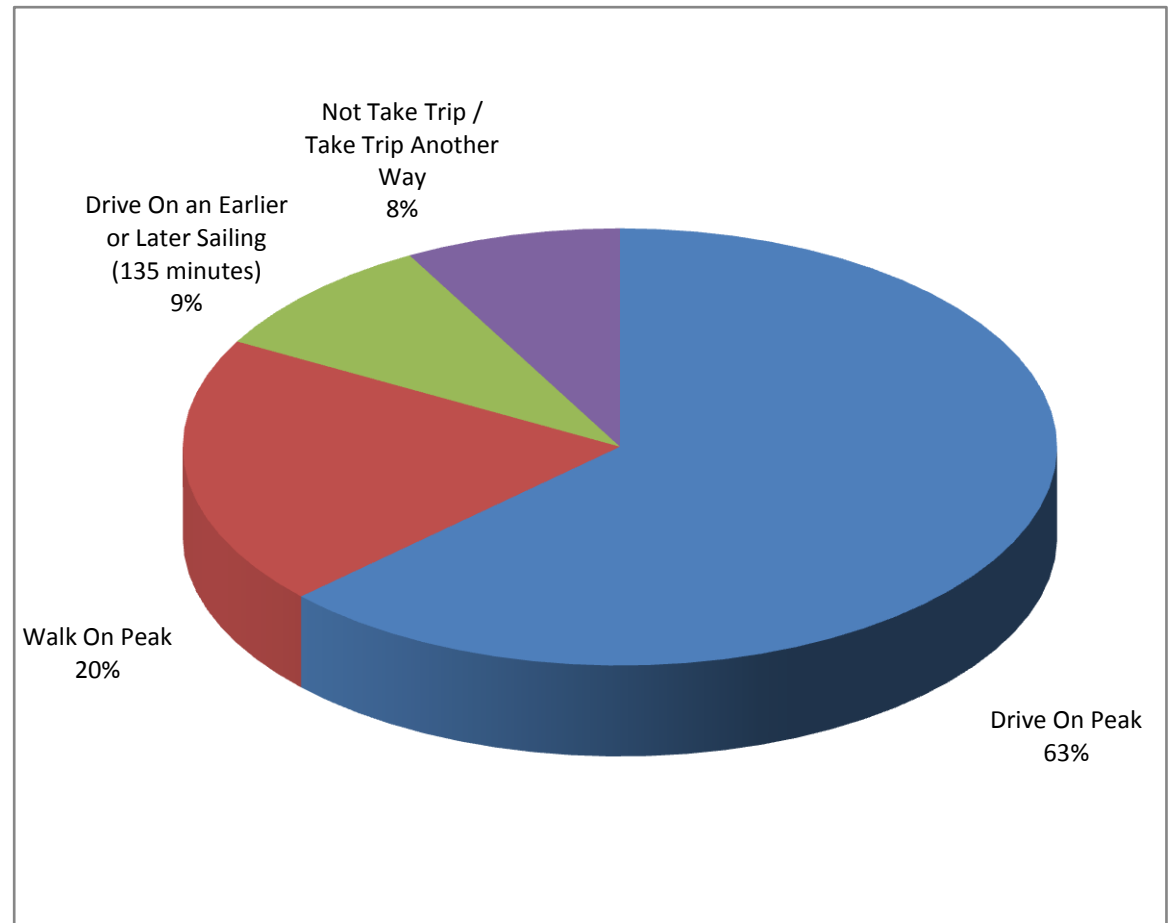
Base Case Overview and Results

The first stage in conjoint analysis is to establish a base case. Results from the base case represent the choice peak vehicle drivers would make under the current fare scenario. Establishing a base case allows us to understand the potential impacts that changes (increases and/or decreases) to current fares could potentially have on travel behaviors.

Under the current fares, 63 percent of peak vehicle drivers would continue to drive on during peak travel periods. The balance (37%) suggests that they would prefer to do something else. This happens in a conjoint study because study participants are presented with choices as to what they would choose to do under the varied scenarios. Therefore, they could indicate that they would like to do something different than what they currently do.

- This finding, therefore, would suggest that some peak vehicle drivers would actually prefer to do something other than drive on the ferry during these busy periods. However, they may have little or no choice as to when or how to take the trip.
- This is consistent with statements made in the focus groups as well as other findings in the on-board surveys. As noted on page **Error! Bookmark not defined.**, only 9 percent of peak weekday vehicle drivers feel that they could take an earlier or later boat than the one they currently take.

Figure 11: Likely Travel Behavior Under Current Fares if Vehicle Driver had a Choice as to How to Take the Trip



Potential Change in Travel Behavior Resulting from an Across-the-board Fare Increase (Vehicle and Walk-On Fares) on Travel

Fares routinely increase to support the increased costs of maintenance and operations. To test the potential impacts on travel behavior, three different scenarios were tested. These include: (1) increasing vehicle and walk-on fares by 20 percent (over current levels), (2) increasing vehicle and walk-on fares by 40 percent and (3) increasing vehicle and walk-on fares by 60 percent.

To determine the impact, results from these scenarios are compared to the base case. For much of the discussion, we present the percentage change in behaviors from the base case – for example, the percentage increase or decrease from the base case in the percent of study participants who choose to walk onto the ferry under the test scenario.

Impact on Drive-On Peak Travel Behavior

As noted above, under the current base case fare structure in which vehicle drivers pay an average fare that is approximately 4.3 times higher than the fare paid by walk-on passengers, 63 percent of peak vehicle drivers indicate that they would drive on during peak travel periods.

If both vehicle and walk-on fares were increased by 20 percent, there is some shift in peak drive-on travel behavior.

- At a 20 percent across-the-board fare increase, the percentage of peak vehicle drivers who would continue to drive on during peak times drops slightly from 63 to 58 percent. Therefore, a 20 percent increase in fares could potentially decrease peak drive-on traffic by 5 percentage points or 9 percent.
- If both vehicle and walk on fares are increased by 60 percent, the impact on peak drive-on demand is more dramatic. The percentage of peak vehicle drivers who would continue to drive on at peak drops from 63 to 45 percent or the equivalent of a decrease in peak vehicle demand of 28 percent.

Impact on Walk-On Peak Travel Behavior

This analysis further suggests that an across-the-board fare increase would have little impact on walk-on traffic during peak periods.

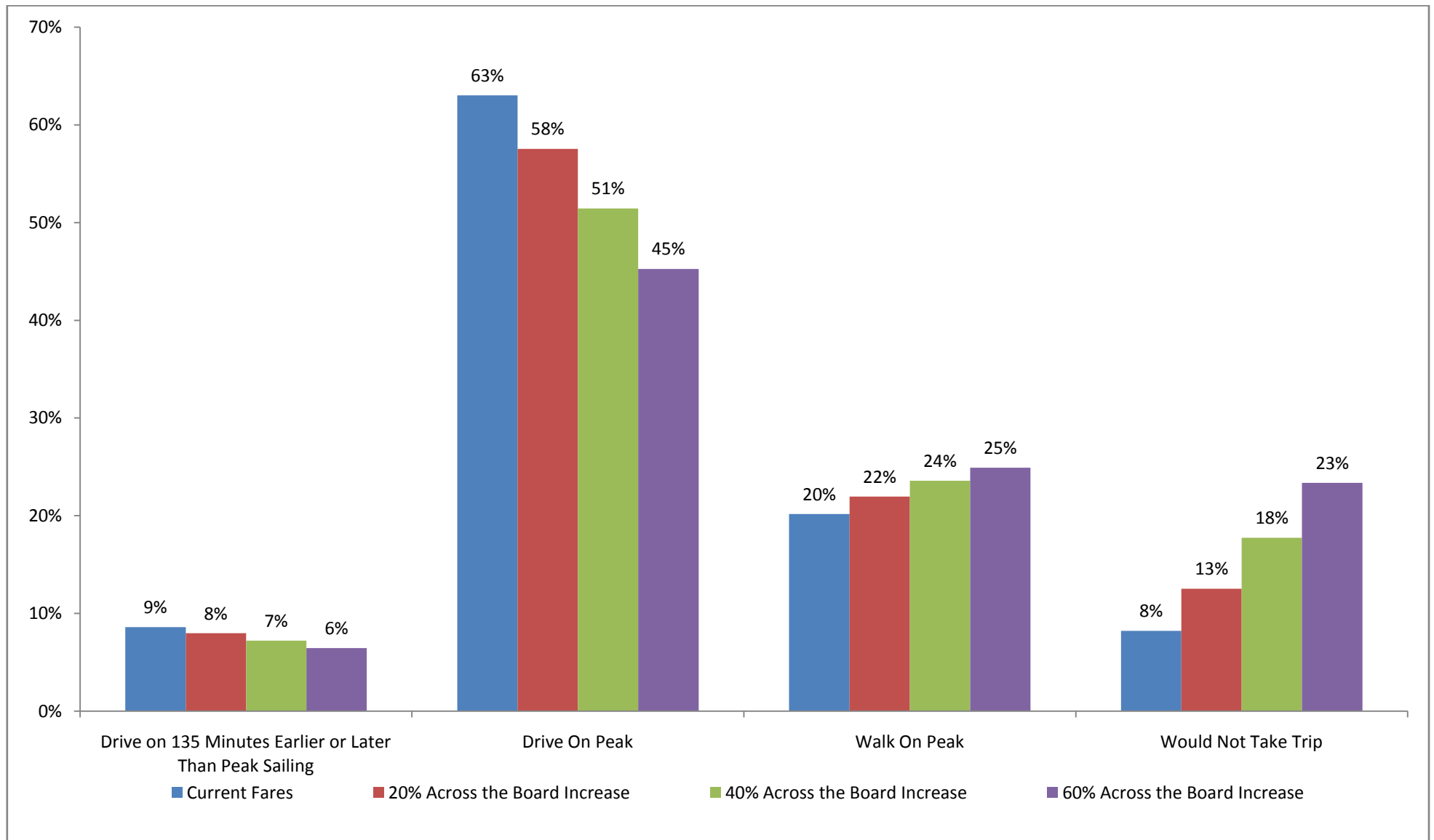
- The percentage of peak vehicle drivers that would shift to walking on increases from 20 percent under the current (base case) scenario fare to 25 percent at a 60 percent fare increase. Therefore, peak vehicle drivers would not choose to walk on more if all fares increase at the same rate across the board. This would suggest that other non-fare factors have a greater influence in vehicle drivers' decision to drive versus walk onto the ferries.

Potential Impact on Overall Ridership

It is noteworthy that an across-the-board fare increase could clearly influence riders' decisions whether to take the trip at all.

- A 20 percent across-the-board increase in fares could result in a 53 percent increase in the percentage of riders choosing not to take the trip – from 8 percent under the current fare (base case) scenario to 13 percent. When faced with a 60 percent increase, the percentage of riders saying they would not take the trip nearly triples – increasing from 8 percent under the current base case scenario to 23 percent.

Figure 12: Potential Change in Travel Behavior for All Travel if Faced With an Across-the-board Fare Increase



[Blank page inserted for pagination purposes.]

Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-on Fares are Maintained or Decreased

A second option would be to increase vehicle fares while maintaining or decreasing walk-on fares. This strategy could potentially have the dual effect of increasing system revenues while at the same time potentially causing the desired shift in behavior from driving to walking onto the ferry. To test this strategy, we looked at the potential effect on reported travel behavior under nine separate scenarios:

1. Increasing vehicle fares across the board, that is, at all times of the day, by 20 percent, 40 percent, and 60 percent while maintaining current walk-on fares;
2. Increasing vehicle fares by 20 percent, 40 percent, and 60 percent while decreasing walk-on fares by 20 percent (from current levels); and
3. Increasing vehicle fares by 20 percent, 40 percent, and 60 percent while decreasing walk-on fares by 40 percent (from current levels).

Impact on Drive-On Peak Travel Behavior

Increasing peak and off-peak vehicle fares while maintaining walk-on fares has approximately the same impact on peak drive-on travel behavior as the across-the-board fare increase.

- The potential drop in peak vehicle traffic with a 20 percent increase in vehicle fares is 10 percent compared with 9 percent drop for an across-the-board fare increase. Thus, only an additional percentage point is added by increasing the vehicle and walk-on fare spread at this level. With a 60 percent increase in vehicle fares, the potential change in peak drive-on travel is 30 percent compared with 28 percent for an across-the-board fare increase. This again demonstrates that increasing the vehicle / walk-on fare spread will not shift large number of peak vehicle users to switch modes alone.

Impact on Walk-On Peak Travel Behavior

Increasing vehicle fares while maintaining walk-on fares has a slight positive effect of increasing the percentage of walk-on riders during peak travel periods.

- At a 20 percent increase in vehicle fares, walk-on traffic could potentially increase by 15 percent compared to the 9 percent increase that would occur if walk-on fares also increased. At a 60 percent increase in vehicle fares, walk-on traffic could potentially increase by 40 percent compared to 24 percent if walk-on fares were also increased.

Decreasing walk-on fares while increasing vehicle fares has no additional effect on increasing the extent to which peak vehicle drivers would choose to walk on instead of driving.

Potential Impact on Overall Ridership

The important aspect of this analysis to note is that increasing vehicle fares while maintaining walk-on fares has a somewhat smaller impact on overall ridership than does the scenario where both vehicle and walk-on fares are increased.

- If vehicle fares are increased by 20 percent and walk-on fares are maintained at current levels, the percentage of drivers who choose to walk onto the ferry instead of driving on increases by 15 percent – increasing from 20 percent to 23 percent. Under the same scenario, the percentage of drivers who choose to not take the trip at all increases by 47 percent – increasing from 8 percent to 12 percent. Under an across-the-board fare increase (both vehicle and walk-on fares are increased, the percentage increase in walk-on traffic is 9 percent – from 20 to 22 percent – while the change in the percentage who would not take the trip at all is 53 percent – increasing from 8 to 13 percent. Thus, raising vehicle fares while maintaining walk-on fares at their current levels has the potentially positive effect of increasing walk-on traffic and minimizing the negative impact on overall system riders.
- At the extreme – a 60 percent increase in vehicle fares – the percentage of drivers who choose to walk on the ferry instead of driving increases by 40 percent – from 20 percent to 28 percent. The percentage of drivers who choose not to take the trip also increases by 161 percent – from 8 percent to 21 percent.

Figure 13: Potential Change in Travel Behavior for All Travel if Vehicle Fares are Increased and Walk-On Fares are Held at Current Levels

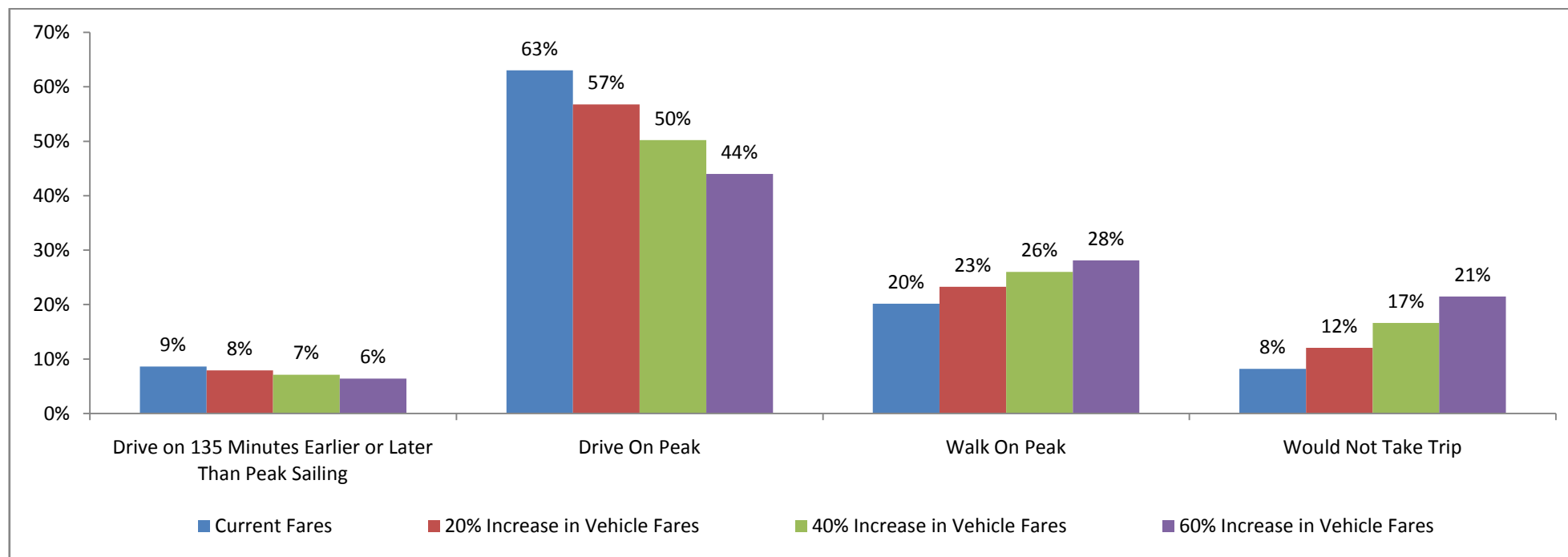


Figure 14: Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-On Fares are Decreased by 20 Percent

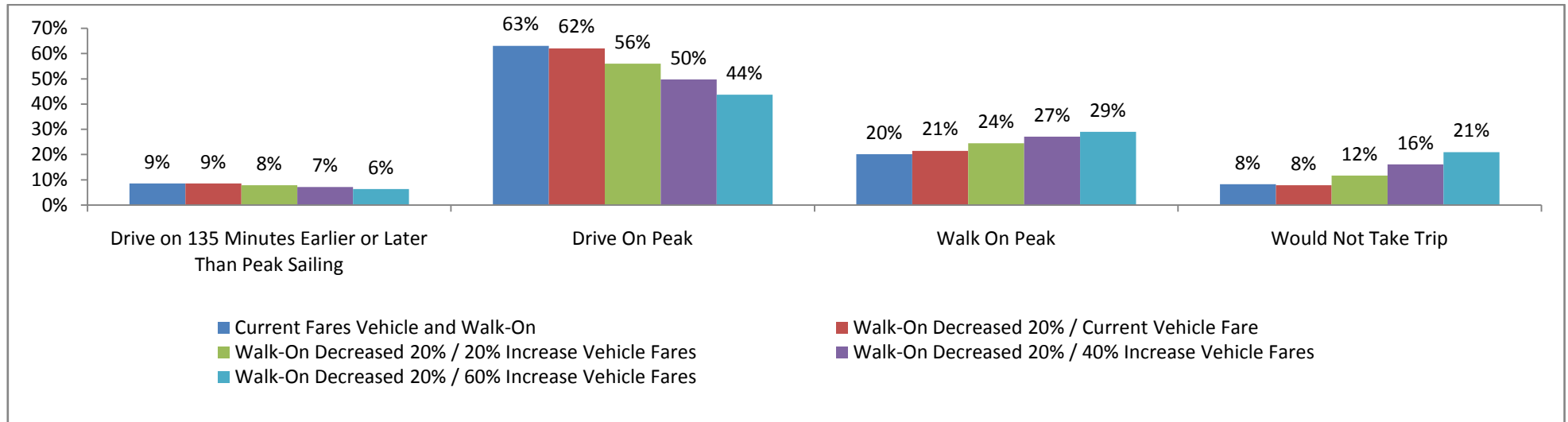
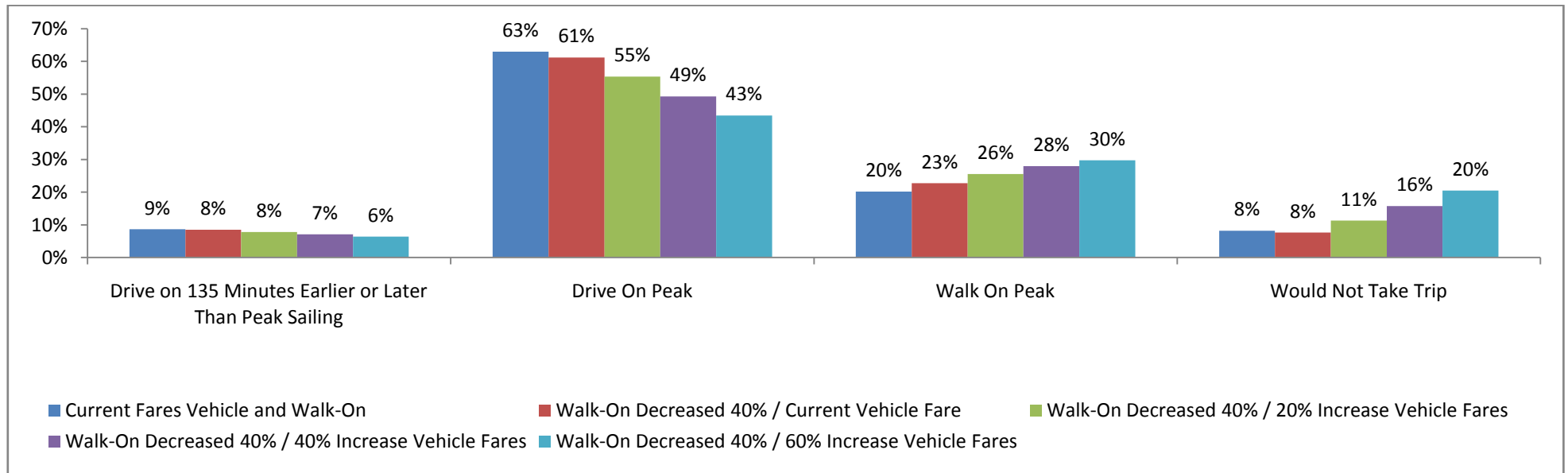


Figure 15: Potential Change in Travel Behavior if Vehicle Fares are Increased and Walk-On Fares are Decreased by 40 Percent



Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased

Of particular interest in this research is an understanding of the potential impact on peak drive-on traffic if a congestion pricing program is introduced. Specifically, we looked at what would happen if current fares to drive on during off-peak hours are decreased from their current levels by 20 to 40 percent and vehicle fares during peak hours are increased. For this test, we again used three different vehicle fares increases. However, this time, larger fare increases were used to better understand what levels of fare differentials would be required to shift peak drive-on travel behavior to an off-peak travel period or to some other mode. The vehicle fare increases tested were: 40 percent, 80 percent, and 120 percent. Walk-on fares are held constant at current levels.

Impact on Drive-On Peak Travel Behavior

Increasing peak period vehicle fares while maintaining off-peak vehicle fares at current or lower levels could have a dramatic effect on potential peak drive-on travel behavior.

- If peak vehicle fares are increased by 40 percent and off-peak vehicle fares are maintained at the current levels, the percentage of drivers who would continue to drive on during peak periods could potentially decrease by one-third (33%) – decreasing from 63 percent driving on during peak travel periods under the base case to 43 percent driving on during peak.
- Continuing to increase peak vehicle fares further decreases peak vehicle traffic. With a 120 percent increase in peak period vehicle fares, the percentage of drivers who would continue to drive on during peak travel periods decreases to 16 percent – or a potential decrease of 74 percent – from the current 63 percent who would choose to drive on under the current base case fare structure to 16 percent under the proposed fares.

Decreasing off-peak vehicle fares at the same time that peak vehicle fares are increased has some additional effect on peak vehicle travel.

- Increasing peak vehicle fares by 40 percent and decreasing off-peak vehicle fares by 20 percent from current levels would result in an additional percentage decrease in peak vehicle traffic of 7 percentage points. That is, if off-peak fares are maintained at current levels and peak vehicle fares are increased by 40 percent, the percentage choosing to drive on decreases by 33 percent. If off-peak fares are decreased by 20 percent, then the percentage choosing to drive on decreases by 40 percent.

Increasing peak vehicle fares or decreasing off-peak fare from current levels or providing a combination of the two could increase the percent of vehicle drivers who will shift their travel away from peak.

- Increasing peak vehicle fares by 120 percent and decreasing off-peak vehicle fares by 20 percent from current levels results in a 77 percent decrease in peak vehicle traffic – from 63 percent of vehicle drivers choosing to continue to drive on during peak to 14 percent.
- Increasing peak vehicle fares by 120 percent while maintaining off-peak vehicle fares at their current levels would potentially result in a 74 percent decrease in peak vehicle traffic – from 63 percent of vehicle drivers choosing to drive on during peak to 16 percent.

Impact on Drive-On Off-Peak Travel Behavior

Increasing peak period vehicle fares while maintaining or decreasing off-peak vehicle fares appears to have the desired effect of shifting peak drive-on traffic to off-peak periods.

- If peak vehicle fares are increased by 40 percent and off-peak vehicle fares are maintained at their current levels, the percentage of drivers who would potentially change their behavior and move to an off-peak travel time doubles – from 9 percent choosing to drive off-peak under the current fare structure to 18 percent choosing to drive off-peak with an increase in peak period fares, a 106 percent increase¹.
- The percentage of current peak period vehicle drivers who would potentially shift to an off-peak period nearly triples if peak vehicle fares are increased by 80 percent and off-peak vehicle fares are maintained at their current levels – from 9 percent under the base case to 26 percent under the an 80 percent increase in fares, a 204 percent increase¹.
- If peak vehicle fares are increased by 120 percent and off-peak vehicle fares are maintained, the percentage increase in drivers who would potentially change their behavior and move to an off-peak time begins to level – from 9 percent under the current fare to 32 percent with the maximum peak period fare increase tested, a 268 percent increase¹.

The research suggests that the greater the spread between off-peak and peak vehicle fares the larger the increase in people selecting to driving off-peak.

- For example, if peak fares are increased by 40 percent and off-peak fares are decreased by 20 percent (a 60 point spread), the percentage of peak vehicle drivers choosing to drive off-peak increases to 25 percent compared to 18 percent if off-peak fares remain at the current fares, a 191 percent increase compared to a 106 percent increase if current vehicle fares are maintained during off-peak.
- If off-peak fares are decreased by 40 percent and peak fares are increased by 40 percent (an 80 point spread), the percentage of peak drivers who would potentially choose to drive off-peak increases to 33 percent, a 284 percent increase.

What the decrease in off-peak fares may accomplish is to limit the potentially negative effect on overall ridership – that is, peak vehicle drivers choosing not to take the trip at all.

- Increasing peak vehicle fares during peak travel periods by the maximum amount (120% over current levels) without a decrease during off-peak travel periods has the effect of potentially decreasing actual system ridership by 179 percent¹ -- from 8 percent of peak vehicle drivers choosing not to take the trip under the base case (current fares) to 23 percent with a 120 percent increase in vehicle fares during peak travel periods.
- If peak vehicle fares are increased by 120 percent and off-peak vehicle fares are decreased 20 percent from current levels, the impact on system ridership would potentially be a decrease of 139 percent¹ compared to the 179 percent scenario described above. If off-peak fares were decreased by 40 percent from the current levels, the impact on ridership would only be a 102 percent increase in the percentage choosing not to take the trip at all.

¹ Calculations are done based on actual data; any differences in calculations reflecting percentage change is due to rounding.

Potential Impact on Overall Ridership

While implementing some form of time of day pricing has the positive effect of shifting current peak period drivers to an off-peak time, it would also potentially have the effect of decreasing ridership similar to the across-the-board and vehicle increase while walk-on fares are maintained.

- If peak vehicle fares are increased by 40 percent and off-peak fares are maintained at current levels, 18 percent of peak drivers suggest that they would drive on an earlier or later boat. At the same time, 15 percent would choose not to take the trip. Thus, the increase in the percentage choosing to drive off-peak is 106 percent (a 9 percentage point increase) while the increase in the percentage choosing not to take the trip is 79 percent (a 7 percentage point increase).

Decreasing off-peak fares from their current levels while increasing peak fares tends to minimize this effect.

- If peak vehicle fares are increased by 40 percent and off-peak fares are decreased by 20 percent (a 60 point spread), 25 percent of peak drivers say they would drive on an earlier or later boat and 13 percent says they would choose not to take the trip. Thus, the increase in the percentage choosing to drive off-peak is 191 percent – from 9 percent under the current base case scenario to 25 percent – while the increase in those choosing not to take the trip is only 61 percent – from 8 percent under the base case to 13 percent.
- If peak fares are increased by 40 percent and off-peak fares are decreased by 40 percent (an 80 point spread), the percentage increase in drivers choosing to drive off-peak is 284 percent – from 9 percent under the current base case to 33 percent – while the percentage increase in those choosing not to take the trips is 42 percent – from 8 percent under the base case to 12 percent.

Impact on Walk-On Travel Behavior

Implementing a time of day pricing program for vehicles while maintaining the walk-on fares has relatively little effect on peak vehicle drivers' choice to walk onto the ferries.

Figure 16: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle and Walk-On Fares are Maintained

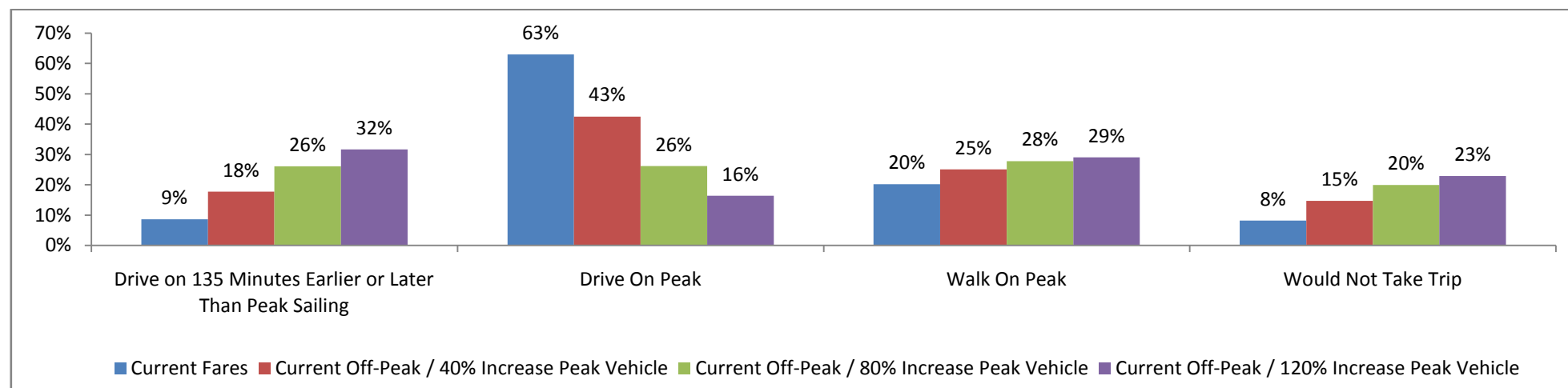


Figure 17: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased by 20 Percent and Walk-On Fares are Maintained

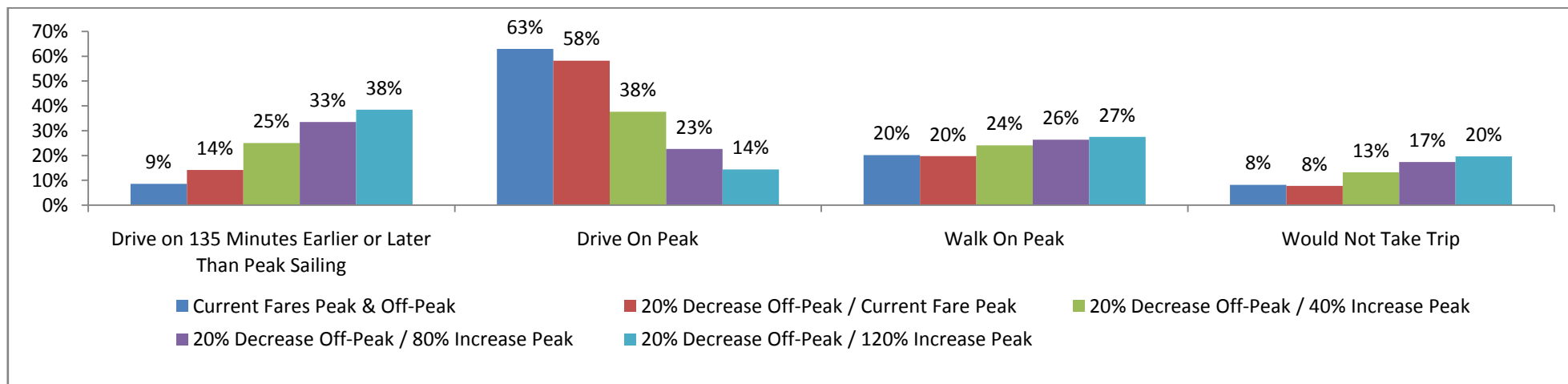
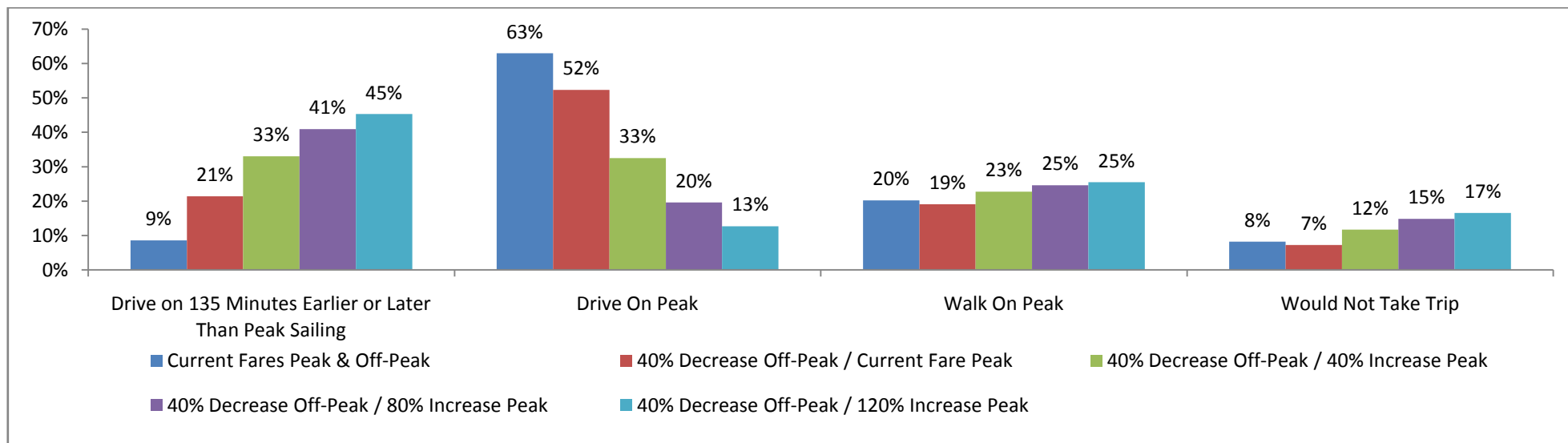


Figure 18: Potential Change in Travel Behavior if Peak Vehicle Fares are Increased and Off-Peak Vehicle Fares are Decreased by 40 Percent and Walk-On Fares are Maintained



Key Findings – Opportunities to Shift Demand through Operational Strategies

Summary: Mode Shift Sensitivity

Additional research using adaptive choice-based conjoint conducted with 461 respondents recruited from the summer survey wave provides additional insights into the potential to discourage peak (as well as off-peak) vehicle drivers from driving on the ferries and instead encouraging them to walk on. All participants in this research drive onto the ferry some or all of the time; the majority (75%) makes at least some of these trips during peak travel periods.

Preferred Options

The first phase of the analysis was to understand which of the different levels of the attributes that were tested were preferred.

Vehicle drivers clearly prefer transit from their home (either curb-to-curb service or walking to a stop near their home) and/or parking at the terminal over driving to a park-and-ride lot and then taking transit.

- Nearly half (47%) of vehicle drivers surveyed prefer transit from their home to the terminal; 41 percent prefers driving to the terminal and parking even if that involves paying a parking fee. Only 12 percent prefers the idea of driving to a park-and-ride and then taking transit to the terminal.
 - In considering different types of transit service from their homes, the vehicle drivers surveyed have approximately the same utility for walking to a stop near their home as having curb-to-curb service.
 - In considering the parking options at the terminal, it is not surprising that vehicle drivers prefer free over paying a fee.

Overall, vehicle drivers prefer a transit option to get to their destination rather than parking a second car in a secure garage at the destination terminal – 61 percent compared to 39 percent, respectively. Levels of preferences for the two options, however, vary by trip purpose. Levels of preference also vary considerably by which specific route drivers take.

- As would be expected, vehicle drivers prefer transit that would take them to their final destination over taking the bus to a transit center and then transferring.
- What is somewhat surprising is the finding that the vehicle drivers surveyed have the same utility for special service with a 2 minute wait and regularly scheduled transit service with as much as a 15 minute wait that would take them to their destination.

In terms of improvements to walk-on passenger access, the vehicle drivers surveyed have greater utility for enclosed walkways, suggesting that enclosed and heated walkways are an unnecessary luxury. However, it is important to note that this research was conducted in September when weather is at its best. Different results might be expected if the survey was done in the January/February time period.

Eleven percent (11%) of vehicle drivers suggest that none of the trips they were shown had a combination of attributes that would enable them to walk onto the ferry instead of driving on. In other words, this would be the segment of peak vehicle drivers who would continue to drive on the ferry under virtually any travel scenarios.

- An additional 11 percent says that less than a quarter of the trip choices shown could be a possibility for them to consider as a walk-on trip and 25 percent says that less than half of the trip choices would be possible.
- Therefore, this would suggest that it would be difficult to shift nearly half (47%) of current peak vehicle drivers to become a walk-on passenger.

On the other hand, it could be possible with the right combination of incentives and disincentives to encourage 53 percent of vehicle drivers to consider walking on the ferry at least some of the time.

Most Important Factors Influencing Mode Choice

Three factors clearly dominate drivers' mode choice decision. These include (listed in order of importance):

- The availability of transit or another alternative such as access to park-and-ride lot or parking at the ferry on their origin.
- The amount of time the total trip takes if walking onto the ferry compared with the amount of time for a comparable drive on trip.
- The availability of transit or another alternative to get from the ferry to their final destination.

What is particularly noteworthy is that the total amount of time the trip would take is three times as important as the cost of the trip.

Potential Impact on Mode Choice with Different Service Offerings

There were numerous options that could be tested but for this paper we have concentrated on the following four different alternatives to determine the potential to shift vehicle drivers to walk-on passengers. (This is a total system-wide analysis and route results may vary due to time and total cost to get to final destination.) The major results of each are:

- In testing vehicle drivers' likelihood to consider walking on using an approximation of the current transit service levels, the study found that only 1 to 2 percent of drivers say they would consider walking on instead of driving on the ferry.
- If a total system could be developed that provided the best possible combination of the attribute levels tested, it would be possible to move 29 percent of peak vehicle drivers from driving on to walk on the ferry instead.
- If a system could be developed in which drivers would have either the option to take transit from their home to the terminal or pay \$5 to park at a secured garage at the terminal combined with taking transit directly to their final destination, it could be possible to shift 16 percent of vehicle drivers to walk-on passengers.
- Finally, if a system could be developed where drivers have either the option to take transit from their home to the terminal or pay \$5 to park at a secured garage at the terminal combined with taking a bus to a transit center and transfer to reach their final destination, it could be possible to shift 11 percent of vehicle drivers to walk-on passengers.

Overview of Approach

Background and Objectives

The purpose of this phase of the research was to identify whether it would be possible to develop a scenario, made up of a combination of factors that represent both incentives to walking and disincentives to driving that would encourage vehicle drivers to walk onto the ferry and discourage them to drive on. Other findings from the research clearly suggest that improved transit service could potentially shift some vehicle drivers to walk-on passengers. In addition, the research suggests that improved passenger access as well as the introduction of programs that remove some of the barriers to walking on would potentially encourage vehicle drivers to walk onto the ferry. At the same time, fares could be structured to be either an incentive for drivers to consider walk on or conversely a disincentive to drive on the ferries.

This research tested respondent's reaction to scenarios covering a complete walk-on trip – from the respondents' home to their final destination. Respondents were presented with potential trip scenarios that had different combinations of incentives and disincentives that when combined were believed to be the primary drivers of their mode choice decision – that is, to choose to either walk or drive onto the ferry. Incentives include convenient access to transit and/or transportation from home to the ferry as well as transportation to their final destination and included potential improvements to the walk-on experience. Disincentives to driving on instead of walking on include total cost and time to travel (cost differences could be increased vehicle fares vs. alternative modes, while time savings difference could be increased wait time experienced by car). The attributes and levels used are presented in the table below:

Table 16: Mode Shift Attributes and Levels

Attribute	Levels
Transportation to Ferry Terminal from Home	<ol style="list-style-type: none">1. Curb-to-curb transit service from your home – transit picks you up at your home and drops you in front the terminal2. Regular transit service from a stop near your home (within a quarter of a mile) to the ferry terminal3. Drive and park at a park & ride lot for free and take transit to the terminal4. Drive and park at a park & ride lot for \$5 / day and take transit to the terminal5. Drive and park your car in a secure garage at departure terminal for free6. Drive and park your car in a secure garage at departure terminal for \$5 / day7. Drive and park your car in a secure garage at departure terminal for \$10 / day8. Drive and park your car in a secure garage at departure terminal for \$15 / day
Terminal Walkway Improvements	<ol style="list-style-type: none">1. Open air walkways2. Overhead covered walkways3. Enclosed and heated walkways

Attribute	Levels
Transportation from Terminal to Final Destination	<ol style="list-style-type: none"> 1. Regularly scheduled transit service (average 15 minute wait) from terminal direct to final destination 2. Specially scheduled transit service (average 2 minute wait) from terminal direct to final destination 3. Regularly scheduled transit service (average 15 minute wait) from terminal direct to a transit center where you transfer to a bus to reach your final destination 4. Specially scheduled transit service (average 2 minute wait) from terminal direct to a transit center where you transfer to a bus to reach your final destination 5. Park a second car for free in secure garage at terminal to use to get to your final destination 6. Park a second car for \$5 / day in secure garage at terminal to use to get to your final destination 7. Park a second car for \$10 / day in secure garage at terminal to use to get to your final destination 8. Park a second car for \$15 / day in secure garage at terminal to use to get to your final destination
Total Trip Time if Walk On the Ferry <i>(actual trip time shown to respondents based on the total amount of time of their most recent drive-on trip)</i>	<ol style="list-style-type: none"> 1. 90% of drive time (i.e., total time to walk on, including transit use or time required to drive and park, is 10 percent less than the amount of time riders' current trip takes) 2. 100% of drive time (i.e., total time to walk on, including transit use or time required to drive and park, is the same as the amount of time riders' current trip takes) 3. 125% of drive time 4. 150% of drive time 5. 175% of drive time 6. 200% of drive time
Cost of Trip to Walk Instead of Drive <i>(actual cost of walk-on trip was shown based on the cost of their drive-on trip which was computed based on answers to questions in the setup for the conjoint exercise)</i>	<ol style="list-style-type: none"> 1. 50% of cost to drive 2. 70% of cost to drive 3. 85% of cost to drive 4. Same cost as driving
Availability of a Guaranteed Ride Home Program	<ol style="list-style-type: none"> 1. Free (ferry cost only) 2. \$20.00 3. \$40.00 4. \$80.00
Access to a Car Sharing Program at Destination	<ol style="list-style-type: none"> 1. Free rental for 5 hours (pay cost of gas only) 2. \$20.00 for 5 hour rental (plus cost of gas) 3. \$40.00 for 5 hour rental (plus cost of gas) 4. \$80.00 for 5 hour rental (plus cost of gas)
Availability of Package / Luggage Handling Service	<ol style="list-style-type: none"> 1. Free for up to 5 packages / pieces of luggage 2. \$5.00 for up to 5 packages / pieces of luggage 3. \$10.00 for up to 5 packages / pieces of luggage 4. \$15.00 for up to 5 packages / pieces of luggage

Methodology

Following is a brief description of the methodology used for this phase of the research. A more detailed explanation of the approach as well as the questionnaire can be found in the Appendix.

This study uses adaptive choice-based conjoint (ACBC). This is a slightly modified version of the choice-based method used in the Price Sensitivity study. The primary difference is that the choice tasks respondents are shown are not fixed as they are in traditional choice-based conjoint. Rather they are adapted to reflect respondents' answers to earlier questions. For example, if someone says that they have no interest whatsoever in a particular aspect of the offering, they are not shown that attribute in the actual trade-off tests. In this study this was particularly applicable. For example, some riders might consider parking a second car in order to have the convenience at their destination while others would never consider such a strategy. Similarly, some riders might like a packaging handling service while others would not want that at all.

As with the Price Sensitivity Study, this research was designed to follow the approach commonly used for transportation choice modeling, also known as a stated preference (SP) survey. In this approach, respondents are asked to describe their most recent trip using the mode of interest (in this case driving on the ferry). They are then presented with different potential scenarios for walking on and asked if walking on would be a possibility for that specific trip or if they would continue to drive. The use of a specific past trip as a point of reference is important in these surveys because travel decisions are commonly quite context specific – travelers have specific needs and constraints that vary considerably from day-to-day and from trip to trip, and an average or typical trip does not reflect those real needs and constraints.

Respondents were shown 32 different trip combinations across 8 different screens. The trips they were shown factored in some of the choices they had made earlier in the survey. For example, if a respondent indicated that parking a second car in a secure garage would never encourage them to use the ferry, they were not shown that. Similarly, if a respondent indicated that a package handling service would not motivate them at all, this option was not included in their trips.

For each scenario tested, they were asked to indicate whether that combination of factors would represent a trip for which they could potentially walk onto the ferry or if they would continue to drive. Following is an example of how the choice tasks appeared on the screen:

Transportation to Ferry Terminal From Home Terminal Walkway Improvements (Click for Definition) Transportation from the Ferry Terminal to Your Final Destination (Click for Definition) Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes) Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$5.00) Access to a Guaranteed Ride Home Program (Click for Definition) Access to a Carsharing Program at Arrival Terminal Availability of Package / Luggage Handling Service (Click for Definition)	Drive and park at a park-and-ride lot for free and take transit service from the park-and-ride lot to the ferry terminal Enclosed and Heated Walkways Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination 262.5 minutes \$ 2.50 Free (ferry fare cost only) Free rental for 5 hours (pay cost of gas only) \$5.00 for up to 5 package/luggage handling	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal) Enclosed and Heated Walkways Park for free a 2nd car in secured garage at arrival terminal you use to get to your final destination 135 minutes \$ 3.50 \$20.00 (plus ferry fare) Free rental for 5 hours (pay cost of gas only) Free for up to 5 package/luggage handling	Drive and park at a park-and-ride lot for \$5/day and take transit service from the park-and-ride lot to the ferry terminal Enclosed and Heated Walkways Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination 135 minutes \$ 2.50 Free (ferry fare cost only) \$20.00 for 5 hour rental (plus gas) Free for up to 5 package/luggage handling	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal) Open Air Walkways Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination 187.5 minutes \$ 2.50 Free (ferry fare cost only) Free rental for 5 hours (pay cost of gas only) Free for up to 5 package/luggage handling
	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me

Finally, respondents were asked several follow-up questions that allow us to calibrate the responses they gave to these choice tasks to determine if they might actually change behaviors. In essence, this stage of questioning causes respondents to honestly differentiate between what they “would like to do” versus “what they are likely to do” in everyday circumstances.

Participants for this study were drawn from respondents to the Summer On-Board Survey who agreed to participate in additional research. A total of 675 panel members participated in this phase of the research. Of these, 534 qualified to do the conjoint – that is, they drive onto the ferries at least some of the time – and 461 completed the entire conjoint exercise. The results of this analysis are based on the 461 people who completed the entire conjoint exercise. A profile of the respondents who participated in the conjoint portion of this research follows.

Demographics Characteristics of Study Participants

The focus of this research was on peak vehicle drivers. The following analysis illustrates how panel participants and actual conjoint exercise respondents compare to the characteristics of the riders in the summer on-board survey. In addition, the analysis shows how summer peak period vehicle drivers who completed the Mode Shift Sensitivity Research are similar or dissimilar to summer WSF riders in general.

The respondents to the Mode Shift Sensitivity Study differ somewhat from peak weekday vehicle drivers.

- Those completing the mode shift research than all summer riders and the total panel are somewhat more likely to be men (55%) than women (44%). This is consistent with the overall demographics of vehicle drivers.
- More than three out of five (63%) respondents are between the ages of 45 and 64. This is higher than summer riders generally – 49 percent of summer riders fall into this age category – as well as peak weekday vehicle drivers – 56 percent are within these age groups.

These differences are slight and most likely reflect the fact that at least some of the summer peak weekday vehicle drivers were traveling for recreation and were not regular riders of the system. This was also evident in the many comments that were received from panel members saying that they could not complete the study as it was not relevant to their travel.

It is noteworthy that 77 percent of those completing the study are employed full-time. As noted above, many panel members did not complete the study as they believed the trips as described did not apply to them. It can be concluded therefore that responses to this survey are representative of the primary demographic target for mode shifts.

Table 17: Comparison of Respondent Demographic Characteristics

	All Summer On-Board Survey Respondents (n=7,659)	Summer Peak Weekday Vehicle Drivers (n=1,063)	Summer Respondents Agreeing to Participate in Research (n=2,288)	Mode Shift Conjoint Exercises Respondents (n=461)
Gender				
Male	47%	57%	50%	55%
Female	53%	43%	50%	44%
Age				
16 – 17	1%	<1%	1%	0%
18 – 24	7%	3%	5%	1%
25 – 34	12%	8%	12%	9%
35 – 44	17%	15%	18%	19%
45 – 54	25%	26%	28%	31%
55 – 64	24%	30%	25%	32%
65 +	14%	17%	12%	8%
Median	50.2	54.0	50.3	51.1
Employment				
Full-Time	60%	65%	65%	77%
Part-Time / Student	16%	11%	13%	8%
Self-Employed	1%	1%	1%	2%
Retired	17%	17%	14%	10%
Other	8%	5%	7%	2%
Income				
< \$15,000	4%	1%	3%	<1%
\$15,000 - \$35,000	10%	9%	10%	4%
\$35,000 - \$50,000	11%	8%	10%	7%
\$50,000 - \$75,000	20%	20%	20%	20%
\$75,000 - \$100,000	18%	19%	20%	22%
\$100,000 - \$150,000	20%	23%	21%	28%
\$150,000 Plus	16%	20%	16%	18%
Median	\$80,732	\$90,779	\$83,330	\$95,772

Travel Characteristics

Riders who agreed to participate in the additional research are more frequent riders than summer riders generally. However, they are very similar to summer peak weekday vehicle drivers. As peak weekday vehicle drivers are the focus of the research this is not considered a problem.

Those that actually completed the mode shift study are more frequent riders than summer riders overall and the overall panel participants. Similarly, they are more likely to be traveling for commute rather than non-commute trips.

- Sixty-eight percent (68%) of respondents in the Mode Sensitivity Research take 25 or more one-way trips per month – averaging 33.1 one-way trips.
- Those completing the mode shift exercises are almost equally split between commuters (48%) and non-commuters (52%).

This was deemed not to be a problem as the focus of some of the proposed price strategies is on changing travel behaviors of regular or very frequent riders.

Table 18: Comparison of Respondent Travel Characteristics

	All Summer On-Board Survey Respondents (n=7,659)	Summer Peak Weekday Vehicle Drivers (n=1,063)	Summer Respondents Agreeing to Participate in Research (n=2,288)	Mode Shift Conjoint Exercises Respondents (n=461)
Trip Frequency*				
Less than 7	51%	40%	37%	25%
7 to 24	26%	30%	31%	42%
25 to 44	16%	22%	21%	26%
More than 45	7%	9%	10%	33.1
Mean	14.2	17.8	18.6	33.1
<i>* Number of one-way trips / month</i>				
Trip Purpose				
Commute	25%	38%	37%	48%
Non-Commute	75%	62%	63%	52%

Overview of Trip They Described as Their Most Recent Trip

Respondents were asked a series of questions describing their most recent trip for which they drove onto the ferry. If they drove on during a peak travel period, they were asked to describe that trip. Otherwise, they described their most recent drive-on trip. Following is a brief overview of the trips respondents described. This information is meant to provide background to the trip they were thinking about when evaluating the walk-on trip alternatives. This data should not be used as insights into overall travel behavior and ridership characteristics. More detailed and reliable data about WSF riders' overall travel behavior is included in Technical Paper #2 – WSF Customer Characteristics, which contains data from a larger and more representative sample of riders, encompassing two travel periods.

Consistent with the overall characteristics of the respondents, the majority (48%) of respondents described a commute trip. An additional 9 percent described a trip for work-related business.

- Consistent with the type of trip being described, the majority of trips (62%) they described were peak weekday peak trips.

Three out of four (75%) respondents had made at least one vehicle trip during peak travel periods in the previous month. The majority (52%) of respondents described their morning peak trip – in essence describing their trip from home.

Length of trips varied significantly – ranging from as few as 25 minutes to several hours. On average, riders' trips ranged in total (home to final destination) from an hour and a half to two hours.

- Twenty-five percent of respondents described trips ranging from 25 to 85 minutes.
- An additional 25 percent described trips ranging from 86 to 105 minutes.
- An additional 25 percent described trips ranging from 106 to 148 minutes.
- The balance described longer trips.

On average, the ferry fare represents just over half (51%) of the total cost of the trip.

- This holds for most routes ranging from 46 percent of the total cost of the trip for Seattle / Bremerton riders to 55 percent for the South Sound routes.
- For Anacortes / San Juan riders, the ferry fare represents 63 percent of their total trip costs; for Port Townsend / Keystone riders this drops slightly to 59 percent of total trip cost.

Table 19: Description of Most Recent Trip(s)

	% of Mode Shift Conjoint Study Respondents (n = 461)
Trip Purpose	
Commute to Work / School	48%
Work-Related Business Activity	9%
Personal Business / Medical	21%
Recreation / Special Event	7%
Shopping	2%
Social	10%
Travel to / From Airport	3%
Other	1%
Direction / Time of Travel	
Eastbound Weekday Peak	52%
Westbound Weekday Peak	10%
Westbound Saturday Peak	6%
Eastbound Sunday Peak	7%
Other	25%
Current Trip Length (in minutes)	
Minimum	25
Median	105
Mean	132
Total Cost of Current Trip including Ferry Fare	
Median	\$16.75
Mean	\$22.25
Total Cost of Current Trip excluding Ferry Fare	
Median	\$9.25
Mean	\$11.74

[Blank page inserted for pagination purposes.]

As would be expected, trip length and cost varies significantly by route.

Table 20: Current Trip Length and Cost by Route

	All Mode Shift Conjoint Respondents (n=461)	SEA/ BAIN (n=137)	SEA/ BRE (n=42)	EDM/ KIN (n=104)	MUK/ CLI (n=73)	SOUTH SOUND (n=74)	KEY/ PTT (n=8)	ANA/ SAN (n=23)
Current Trip Length								
Minimum	25	40	60	50	25	35	90	164
Median	105	105	116	105	93	93	364	244
Mean	132	127	113	115	97	101	249	261
Current Trip Cost including Ferry Fare								
Median	\$16.75	\$17.50	\$17.50	\$15.00	\$13.00	\$18.00	\$22.00	\$43.50
Mean	\$22.25	\$20.83	\$19.67	\$16.89	\$13.47	\$18.63	\$29.06	\$53.25
Current Trip Cost excluding Ferry Fare								
Median	\$9.25	\$7.25	\$10.50	\$7.25	\$7.00	\$8.75	\$10.88	\$31.00
Mean	\$11.74	\$10.61	\$9.06	\$7.90	\$7.61	\$8.86	\$18.63	\$31.18

Detailed Findings – Mode Shift Sensitivity

Extent to which Incentives / Disincentives Would Encourage Riders to Walk onto the Ferry

After the initial questions that got respondents to think about a specific peak drive-on trip, they were presented with several of the attributes individually and asked the extent to which that specific attribute alone would encourage them to walk onto the ferry instead of drive. If they said that none of the attributes would encourage them to walk onto the ferry, they were asked a follow-up question that forced them to choose between one of the options.

Transportation from Home to Terminal

Vehicle drivers clearly prefer transit from their home (either curb-to-curb service or walking to a stop near their home) and/or parking at the terminal over driving to a park-and-ride lot and then taking transit.

- This is consistent with other transit research that shows that once people get into their cars, they prefer to continue to their destination, rather than driving and parking and then in essence taking a second trip. However, this question did not factor in the potential cost of the convenient parking at the destination versus potentially free parking at a park-and-ride lot.

What is noteworthy is the finding that when forced to choose between transit from home to parking at the terminal, vehicle drivers show a slight preference for transit – 34 percent preference for transit compared to 28 percent preference for parking at terminal. Nine percent show an equal preference for transit or parking at the terminal.

Figure 19: Extent to Which Different Options to Get from Home to Terminal Would Encourage Vehicle Drivers to Walk On instead of Driving

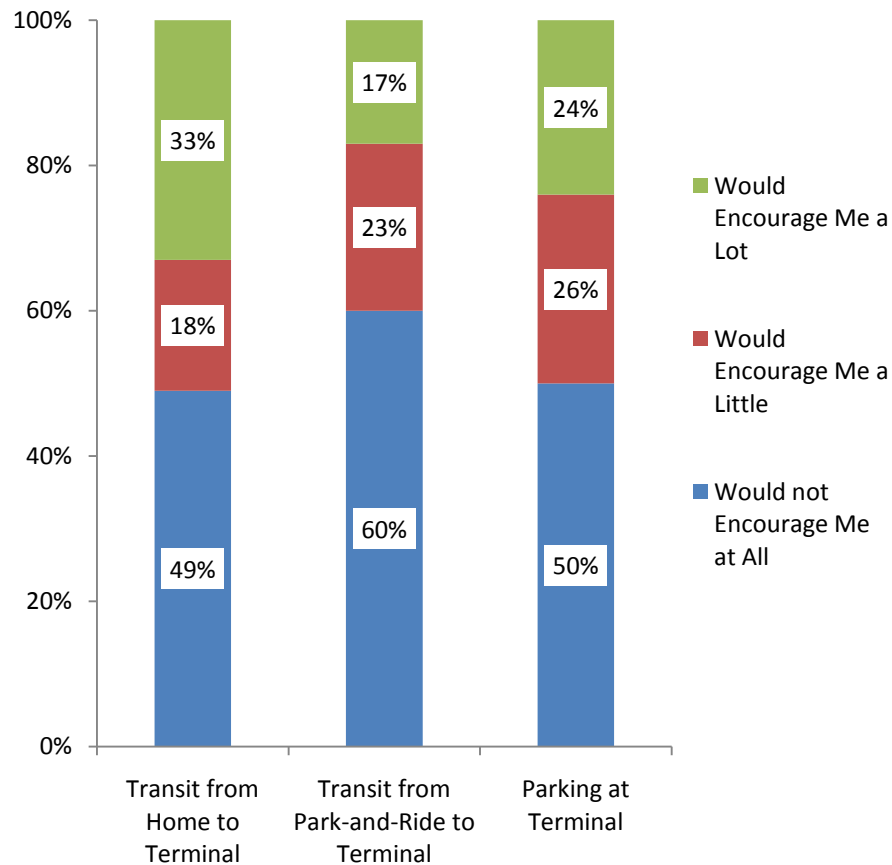
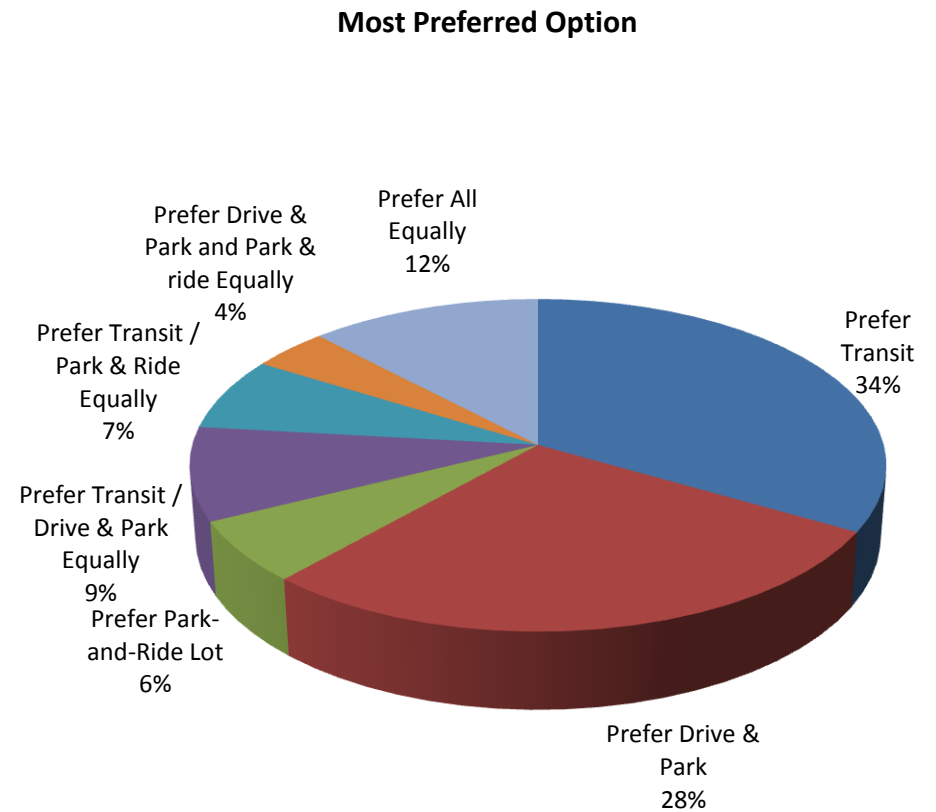


Figure 20: Vehicle Drivers' Preferred Option to Get from Home to Terminal



Transportation from Arrival Terminal to Final Destination

Vehicle drivers also prefer the option of using transit to get from the arrival terminal to their final destination over the potential cost of the convenience of having a second car parked at the arrival terminal side that they can drive to their final destination. There are, however, differences by trip purpose and route.

- There are, however, some differences by route.
 - Seattle / Bremerton vehicle drivers are the most likely to prefer transit over a second car – 70 percent compared to 20 percent, respectively. Vehicle drivers on the Seattle / Bainbridge route also show a clear preference for transit over a second car – 59 percent compared to 21 percent, respectively.
 - On the other hand, vehicle drivers on the Anacortes / San Juans route show a preference for a second car over transit – 52 percent compared to 13 percent, respectively. In addition, 35 percent say they would prefer both options.

Figure 21: Extent to Which Different Options to Get from Arrival Terminal to Destination Would Encourage Vehicle Drivers to Walk On instead of Driving

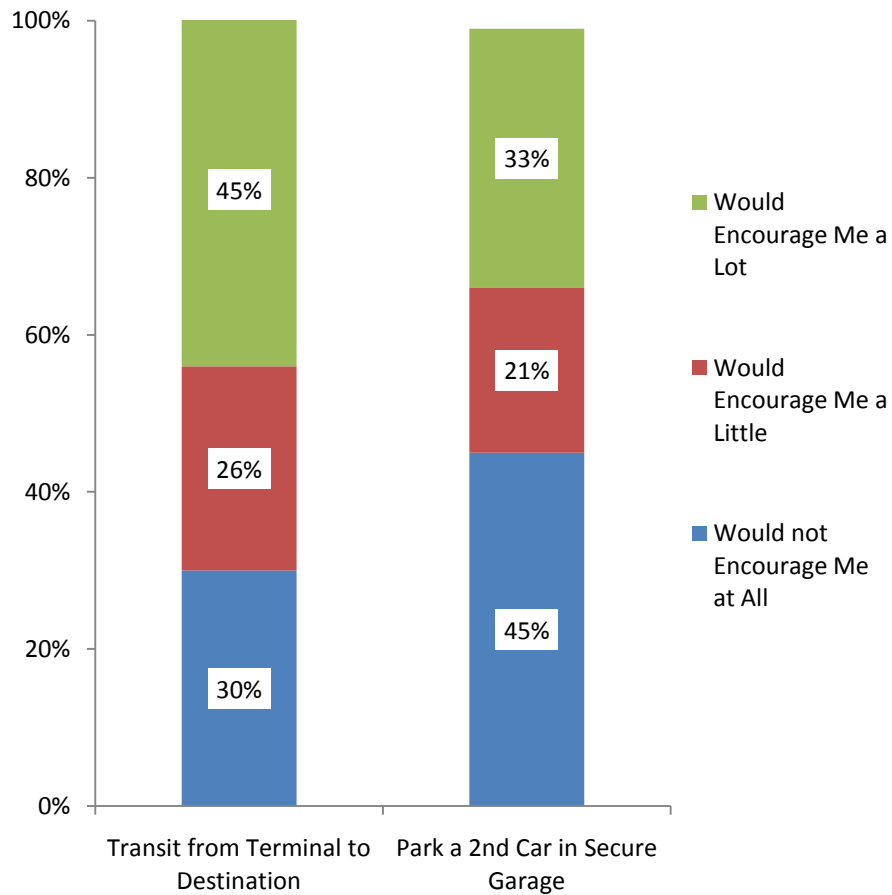
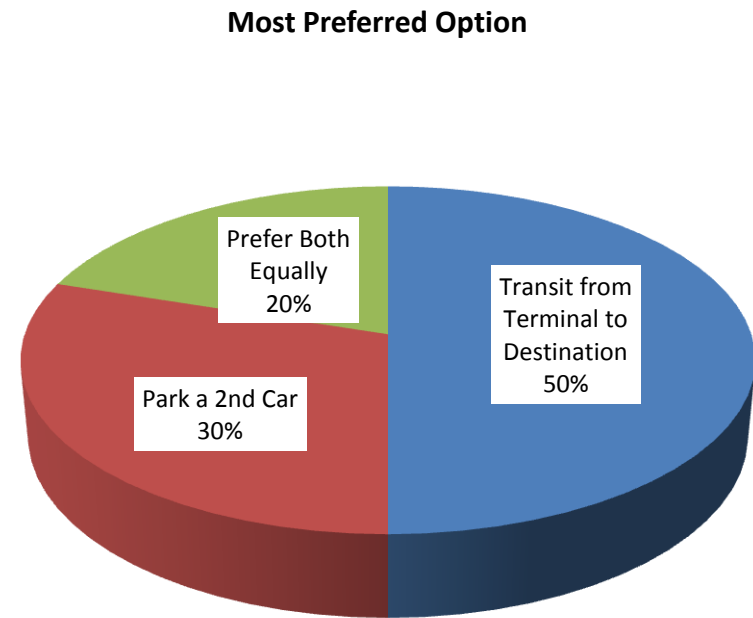


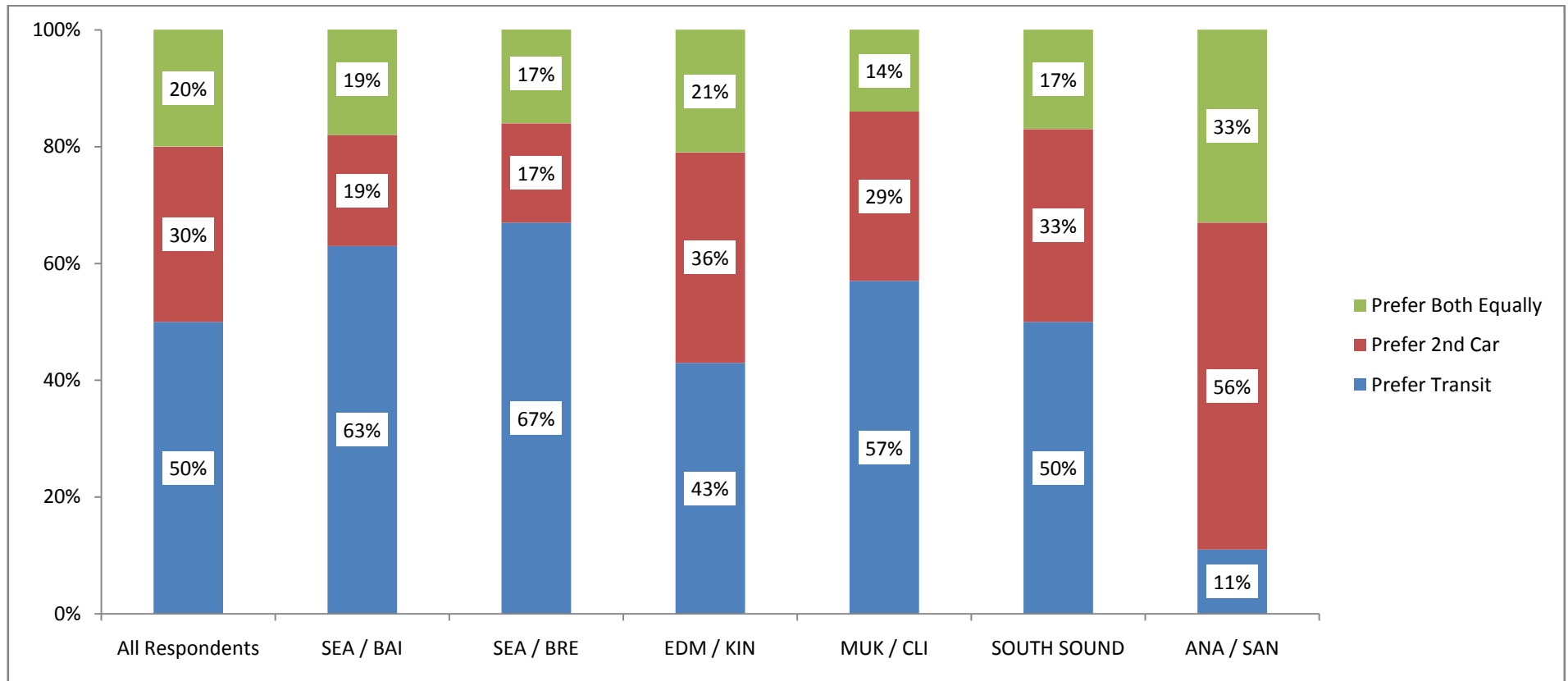
Figure 22: Vehicle Drivers' Preferred Option to Get from Arrival Terminal to Destination



As would be expected, preference for mode to get from the ferry to their final destination varies somewhat by route.

- In general, vehicle drivers on most routes prefer a transit option to get to their final destination.
- Vehicle drivers on the Anacortes / San Juans route clearly show a preference for a second car, potentially recognizing that providing transit is not a viable option.
- Opinions among vehicle drivers on Edmonds / Kingston and the South Sound routes are more varied. While the majority prefers transit, a significant number suggest that they would prefer to have the option to part a second car.

Figure 23: Vehicle Drivers' Preferred Option to Get from Arrival Terminal to Destination by Route



Keystone / Port Townsend riders not included as cell size is very small (n = 8).

Interest in Convenience Services to Help Mobility

The final three attributes – car sharing program, package handling service, and guaranteed ride home service – are all conveniences that could make it easier for riders to walk on, particularly on routes where transit service is limited or non-existent, such as the San Juans, or for certain trip purpose, such as shopping. Alternatively, offering these conveniences may remove some of the perceived barriers to walking. For example, many transit services offer a guaranteed ride home program. Riders give strong support for these programs, but research shows they are rarely used.

In this case, vehicle drivers were only asked the extent to which the availability of the service would encourage them to walk on the ferry. Preference for one over the other is not relevant as more than one could be offered.

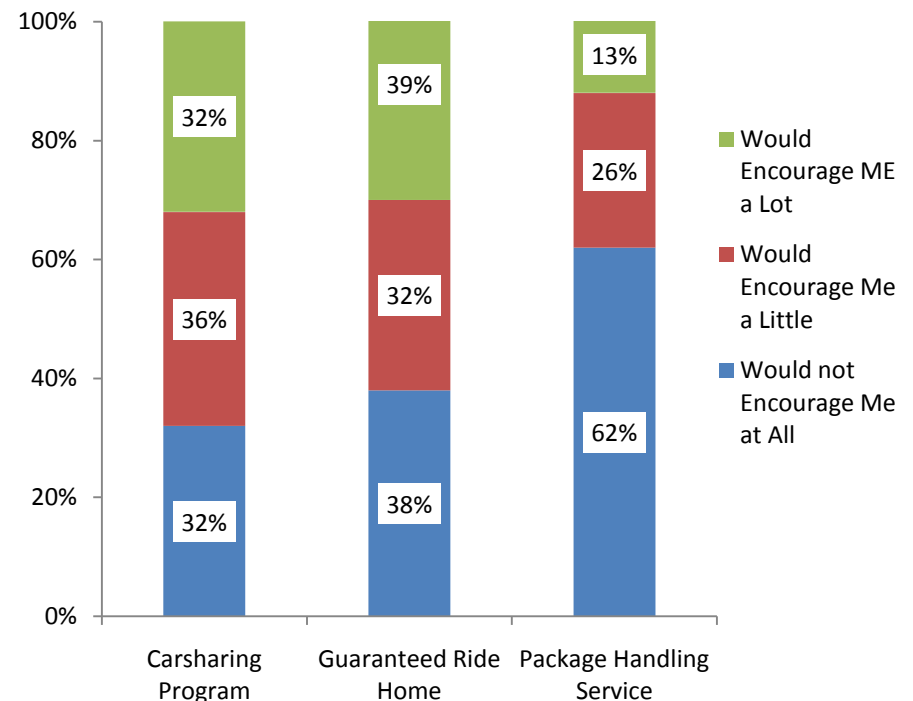
Overall, vehicle drivers clearly see some value in car sharing and guaranteed ride home programs. These programs have proven successful in conjunction with other transit services.

- A guaranteed ride home program is of somewhat greater interest to vehicle drivers on the Seattle / Bremerton and, to a lesser extent, on the Seattle / Bainbridge routes – 71 and 64 percent, respectively say this would encourage them to walk on. Note that these routes already have the highest levels of walk-on traffic.
- There are no differences in levels of interest in these programs by trip purpose.

Overall, vehicle drivers are less interested in the package handling services. However, interest in this service does vary by route and by trip purpose.

- There is higher than average interest in this service among vehicle drivers on the Anacortes / San Juans ferry – 37 percent of all riders on this route said it would encourage them a lot and 33 percent said it would encourage them somewhat.
- Interest is also higher among non-commuter vehicle drivers – 21 percent said it would encourage them a lot and a slightly higher percentage (26%) said it would encourage them somewhat. This is consistent with other findings from the on-board survey that suggest that having to carry luggage or bulky items is a factor in the mode choice decision, notably among those traveling for non-commute trips.

Figure 24: Interest in Convenience Services to Help Mobility



Utilities

The first phase of any conjoint analysis is the calculation of respondent (conjoint) utilities for each of the levels of each attribute. Conjoint utilities (also called conjoint part-worths) are useful in identifying at a relatively gross level the extent to which riders value each attribute level and how that specific attribute level relates to other levels tested. It is important to note that for each set of attribute levels that the conjoint part-worths or utilities are set on an arbitrary scale specifically customized for that set of attribute. Utilities are interval scaled values and do not have an absolute zero point. Therefore, it is not appropriate to say “based on two values how much more utility one level has over another.” Rather utilities are useful in seeing the order and relative value of the attribute levels only within the set of attributes themselves.

The utility values represent what are called “stated preferences” for the levels within that attribute only. They are different from the “revealed” preference that comes from directly asking a respondent what they most prefer. In other words, utility values are calculated based on what respondents say are their choices after being presented with a wide range of different options, rather than being asked one or more direct questions.

Because most attributes contained in this study have clear orders of preference, it is not necessary to ask a person if level A is better than level B. For example, free parking will have a higher utility than parking that costs \$15 / day. Similarly, vehicle drivers are going to prefer a shorter trip time over a longer one. Therefore, a discussion of the actual utility values derived from this study is of little interest with the exception of the three attributes related to getting from home to the terminal and then again from the arrival terminal to a rider’s final destination and for passenger access at the terminal, where an order is not obvious or known.

All data from this point forward is based on vehicle drivers’ responses to eight questions that showed them four different trips and asks them to indicate whether a trip configured in this way would work for them to walk on. Therefore, respondents were shown a total of 32 different trip choices over 8 different screens that they could choose from. For each trip presented, they indicated whether or not the trip would be a possibility for them to take as a walk-on passenger instead of driving on. Following is a sample screen shot of what a respondent would see:

Here are a few scenarios for walking on the ferry that you might like. For each one, please indicate **whether or not for your trip's primary purpose** (Commuting to/from Work) it would be a **possibility for you to walk on the ferry under this scenario**. Currently, you pay \$[Q17] and it takes [Q14-Q10] minutes for this trip.

Transportation to Ferry Terminal From Home	Drive and park at a park-and-ride lot for free and take transit service from the park-and-ride lot to the ferry terminal	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal)	Drive and park at a park-and-ride lot for \$5/day and take transit service from the park-and-ride lot to the ferry terminal	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal)
Terminal Walkway Improvements (Click for Definition)	Enclosed and Heated Walkways	Enclosed and Heated Walkways	Enclosed and Heated Walkways	Open Air Walkways
Transportation from the Ferry Terminal to Your Final Destination (Click for Definition)	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination	Park for free a 2nd car in secured garage at arrival terminal you use to get to your final destination	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination
Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes)	262.5 minutes	135 minutes	135 minutes	187.5 minutes
Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$5.00)	\$ 2.50	\$ 3.50	\$ 2.50	\$ 2.50
Access to a Guaranteed Ride Home Program (Click for Definition)	Free (ferry fare cost only)	\$20.00 (plus ferry fare)	Free (ferry fare cost only)	Free (ferry fare cost only)
Access to a Carsharing Program at Arrival Terminal	Free rental for 5 hours (pay cost of gas only)	Free rental for 5 hours (pay cost of gas only)	\$20.00 for 5 hour rental (plus gas)	Free rental for 5 hours (pay cost of gas only)
Availability of Package / Luggage Handling Service (Click for Definition)	\$5.00 for up to 5 package/luggage handling	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling
	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me

For each scenario, indicate whether or not it would be a **possibility for you to walk on the ferry** in this scenario.

Transportation from Home to Terminal

Consistent with respondents' revealed preference for transit service from their home to the ferry over other alternatives (page 58), respondents at the system-wide level have clearly higher utility for both levels of transit service.

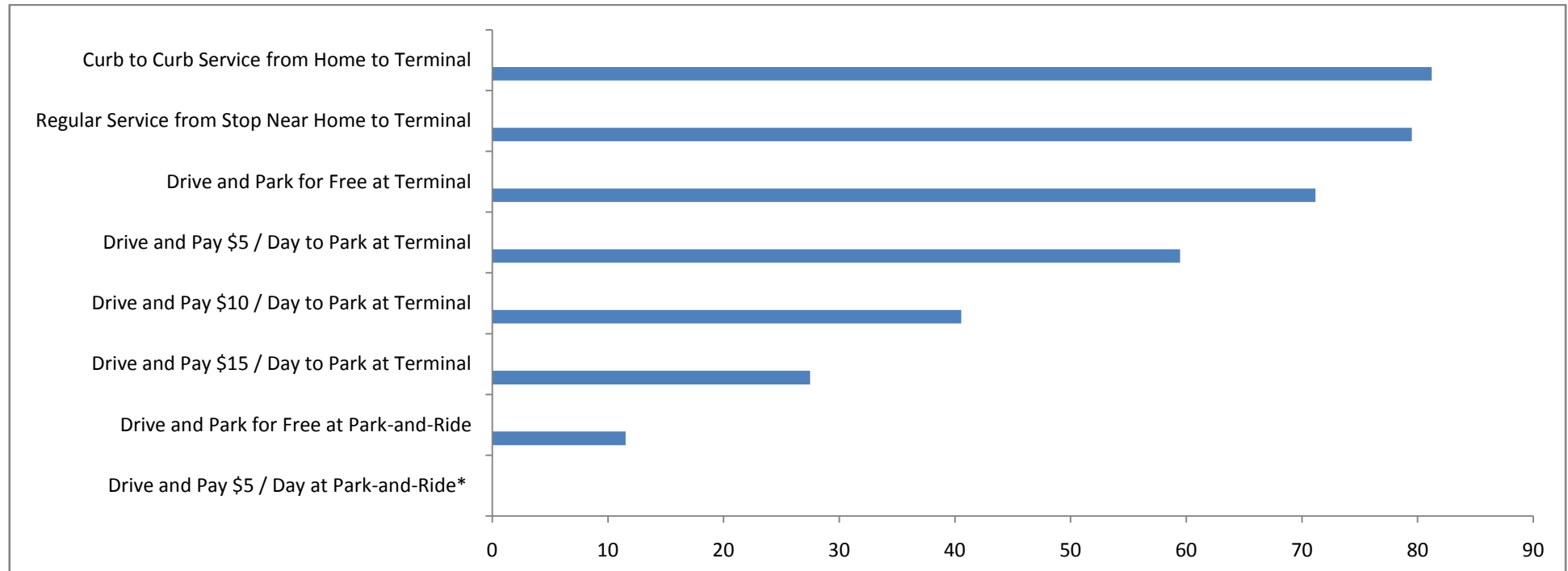
- It is noteworthy that there is little difference in utility for curb-to-curb service over walking to a stop near one's home.

Similarly, respondents have higher utility for driving and parking at the terminal regardless of cost than for driving to a park-and-ride lot and taking transit to the terminal.

- That is, they would be more willing to pay \$15 / day to drive and park at the terminal than to drive to a free park-and-ride lot and take transit.

There are no significant differences in utility values by trip purpose.

Figure 25: Conjoint Utilities for Different Alternatives to Get from Home to the Ferry Terminal

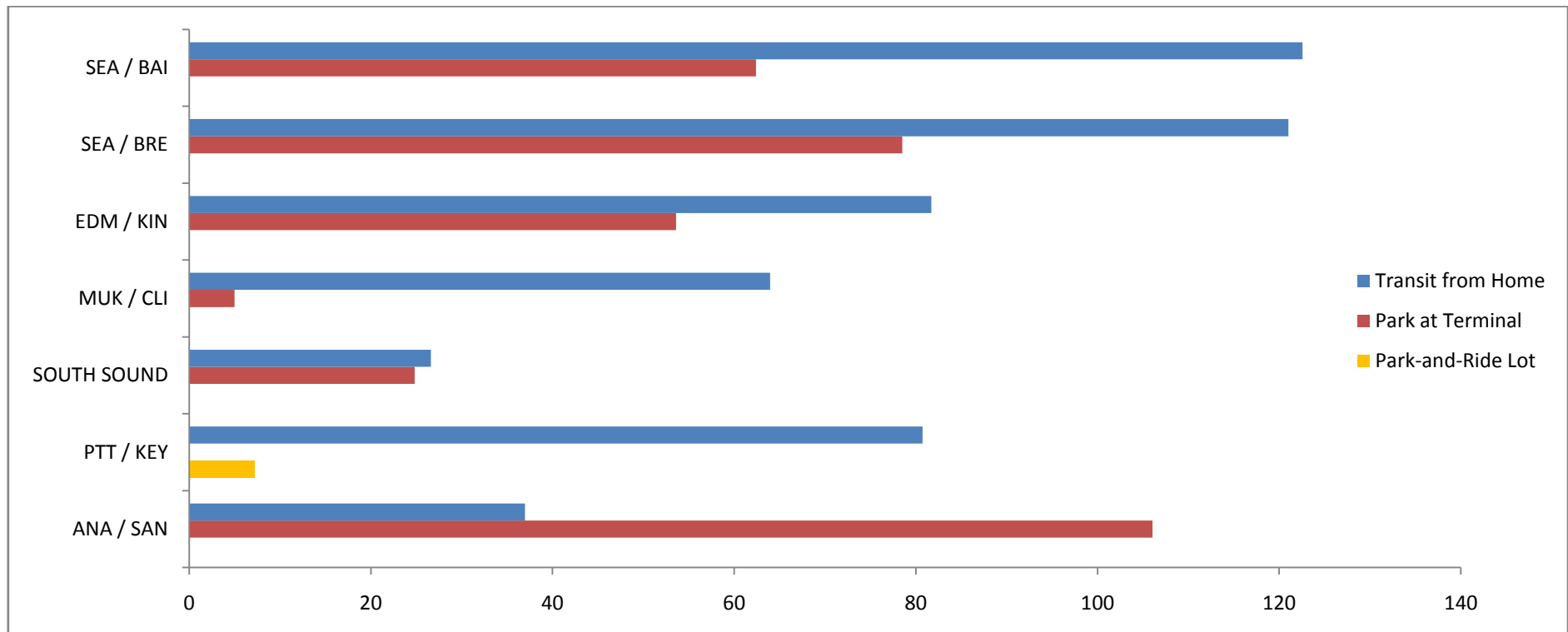


* Utilities are scaled from zero so that the attribute level with the lowest utility is given a value of zero. No bar is displayed for the level with the lowest utility.

There are some significant differences in utilities for the different options to get from home to the ferry terminal by route. The differences are itemized below:

- With the exception of Anacortes / San Juans and Edmonds / Kingston vehicle drivers, most vehicle drivers have greater utilities for the transit from home options.
- Anacortes / San Juans vehicle drivers clearly prefer the option to drive and park at the terminal.
- Edmonds / Kingston vehicle drivers are almost equally split in terms of their preferences.
- Port Townsend / Keystone vehicle drivers are the only ones that show a greater utility for parking at a park-and-ride lot and taking transit to the terminal over parking at the terminal. This may reflect their recognition of the limited availability for parking in town.

Figure 26: Conjoint Utilities* for Different Alternatives to Get from Home to the Ferry Terminal by Route



For each route, utilities are scaled from zero so that the attribute level with the lowest utility is given a value of zero. Bars not displayed for those levels with the lowest (zero) utility.

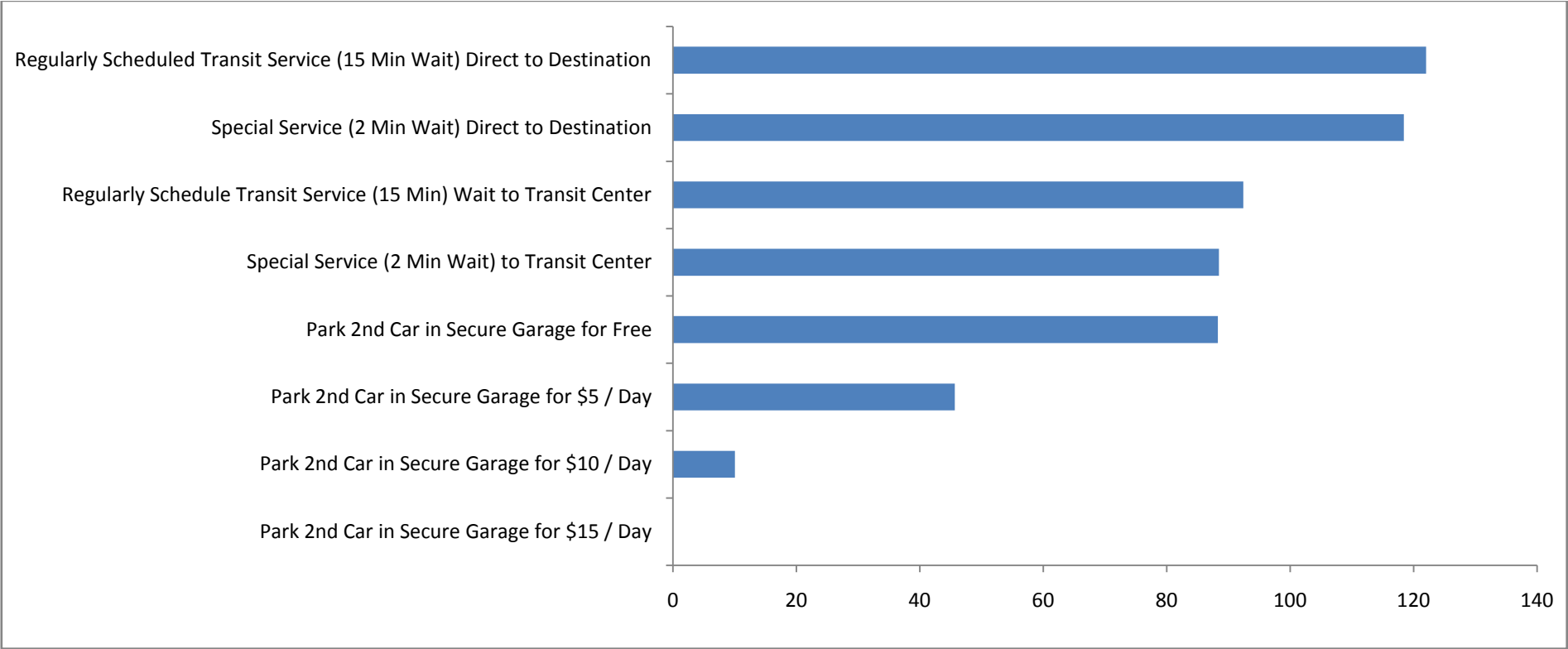
** For display and analytical purposes, the utility values within each category (transit from home, park at the terminal, or park at a park-and-ride lot and take transit) are averaged.*

Transportation from Terminal to Destination

Again consistent with respondents’ revealed preference for transit service over having a second car to use (page 60), vehicle drivers have clearly higher utility for all levels of transit service. Moreover, utilities are higher for service that would get a vehicle driver directly to their destination than for transit service that would get them to a transit center where they would have to transfer to another bus.

- It is noteworthy that there is only a very slight difference in utility for regularly scheduled transit service that could require as much as a 15 minute wait over special service that could have a shorter (2 minute) wait time. It was hypothesized, based on comments made in the focus group, that riders might prefer small vans / shuttles scheduled to meet the ferries in order to minimize wait times. This does not appear to be the case.

Figure 27: Conjoint Utilities for Different Alternatives to Get from Arrival Terminal to Final Destination



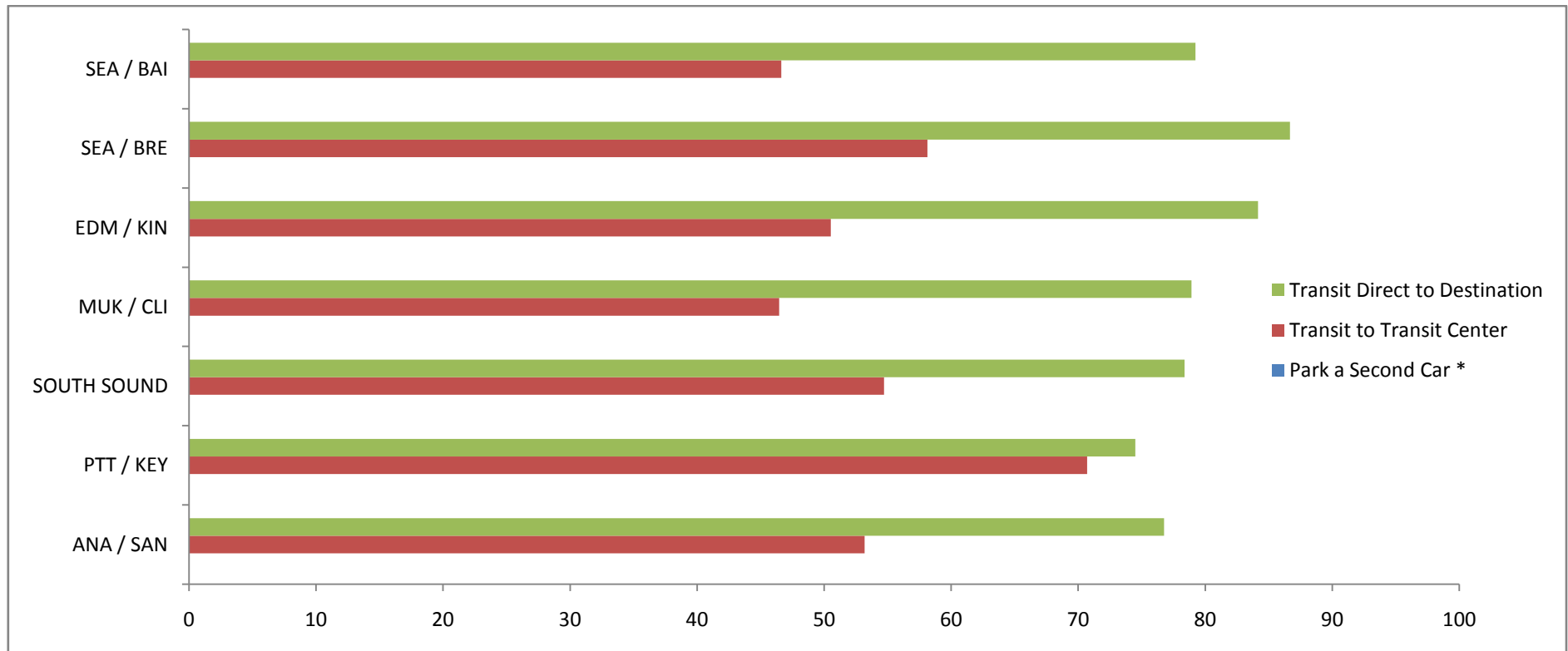
Utilities are scaled from zero so that the attribute level with the lowest utility is given a value of zero. No bar is displayed for the level with the lowest utility.

There are fewer differences in utilities for the different options to get from the ferry terminal to riders' final destination by route. All vehicle drivers prefer the transit options over the option to park a second car.

With exception of Port Townsend / Keystone vehicle drivers, vehicle drivers on all routes prefer transit direct to their destination over taking transit to a transfer point and taking another bus.

- Port Townsend / Keystone vehicle drivers are almost equally split in terms of their preferences for transit direct to their destination over to a transit center.

Figure 28: Conjoint Utilities for Different Alternatives to Get from Terminal to Final Destination by Route**



* For each route, utilities are scaled from zero so that the attribute level with the lowest utility is given a value of zero. Parking a second car received the lowest utility for all routes and is scaled at zero; hence no bars are displayed.

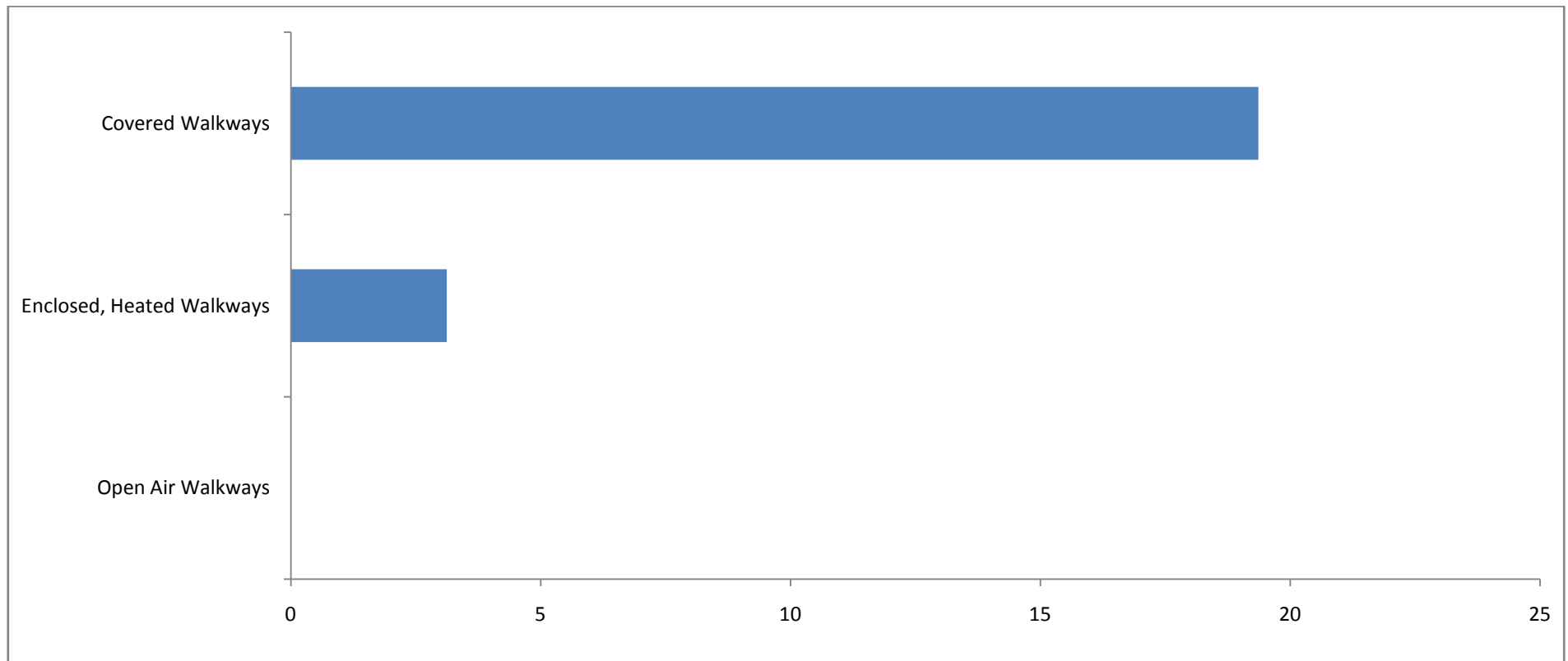
** For display and analytical purposes, the utility values within each category (transit from home, park at the terminal, or park at a park-and-ride lot and take transit are averaged).

Passenger Access Improvements

While of relatively low overall importance at the system-wide level, the utility analysis for passenger access improvements is somewhat surprising.

- Contrary to what one might expect, the highest utility is not given to enclosed and heated walkways. Instead, vehicle drivers have higher utility for overhead covered walkways. This would suggest that vehicle drivers have realistic expectations for passenger amenities. However, we should remember that this survey was done in September when the weather is at its best and results could be different if the data were collected in January or February.

Figure 29: Conjoint Utilities for Passenger Access Improvements



Utilities are scaled from zero so that the attribute level with the lowest utility is given a value of zero. Bar does not show on chart.

Percentage of Vehicle Trips that Could Be Possibilities to Shift to Walking On

When presented with the different travel scenarios, respondents were given the option to say that the trip as described would not work for them as a walk-on passenger – that is, they would not be able to walk on for that trip and would continue to drive on at peak sailing times. Counting the number of times a respondent says “the trip would not be a possibility” provides some indication of the size of the peak drive-on rider segment that would never walk on the ferry regardless of the incentives provided. In addition, respondents can be segmented by the percentage of trips they feel could be possibilities. This analysis provides some indication of the size of the drive-on peak rider segment that could potentially become walk-on riders if existing barriers to walking on are removed.

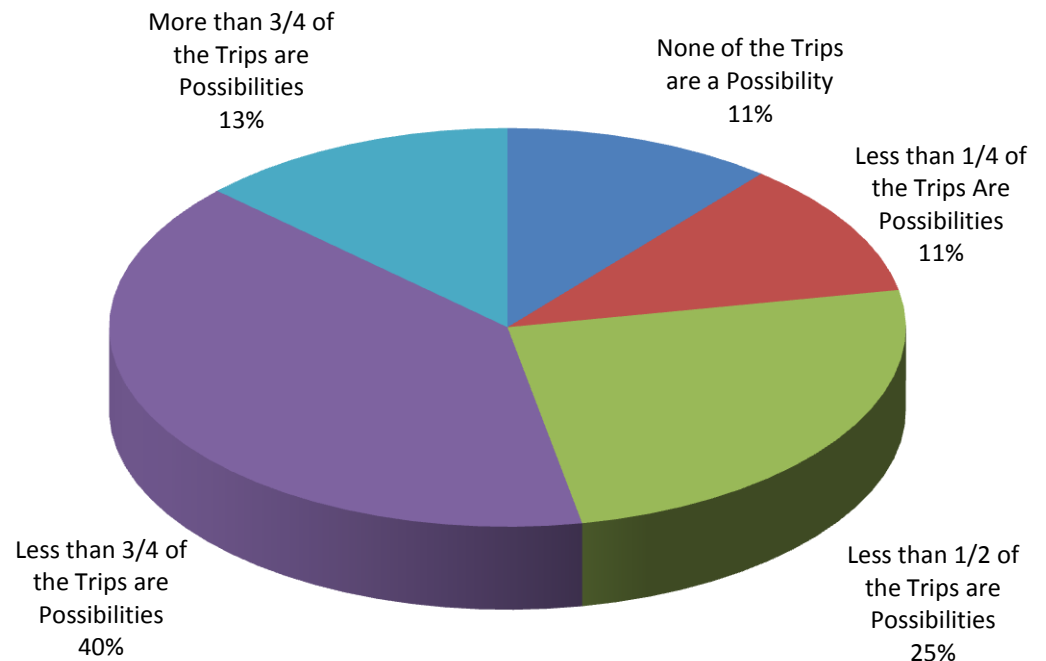
Eleven percent (11%) of vehicle drivers suggest that none of the trips they were shown represent an option that would enable them to walk onto the ferry instead of driving on. In other words, this would be the segment of peak vehicle drivers who would continue to drive on the ferry under virtually any travel scenario.

- An additional 11 percent says that less than a quarter of the trip choices shown could be a possibility for them to consider as a walk-on trip and 25 percent says that less than half of the trip choices would be possible.
- Therefore, this would suggest that it would be difficult to shift nearly half (47%) of current peak vehicle drivers to become a walk-on passenger.

On the other hand, more than half (53%) of peak vehicle drivers suggest that with the right combination of incentives and disincentives, they would consider walking on the ferry. Thirteen percent (13%) could be considered “prime” prospects for conversion as they said that three out of four of the 32 trip scenarios were possibilities for walking on.

- There are relatively few differences by route. However, a somewhat higher than average percentage of peak vehicle drivers on the South Sound routes suggest that at least half of the trips were possibilities – 17 percent suggests that more than three out of four trips were possibilities. Other findings in this research support the relatively high levels of interest among peak vehicle drivers on these routes to walk onto the ferry instead of driving, and that lack of convenient public transportation is a significant barrier for them.

Figure 30: Percentage of Vehicle Trips that Could Be Possibilities for Walking On



Importances

The third stage in the conjoint analysis is to calculate the overall importance of each of the attributes in the respondents' mode choice decision. This is an important step because this analysis provides a relative value for each attribute within the framework of all attribute tested. The computed importance scores are a ratio scale – that is, something can have no importance at all (0%). Therefore, it is possible to say exactly how much more important one attribute is than another.

Three factors clearly dominate drivers' mode choice decision. These include (listed in order of importance):

- The availability of transit or another alternative such as access to park-and-ride lot or parking at the ferry on their origin.
- The amount of total time to take the trip. This would include the time from when a person leaves home to when they arrive at their final destination.
- The availability of transit or another alternative to get from the ferry to their final destination.

While the amount of time to take the trip as a single group is clearly important, vehicle driver's ability to get to the ferry and from the terminal to their destination are the most important considerations – combined they represent 48 percent of the decision process (given the attributes included in this study).

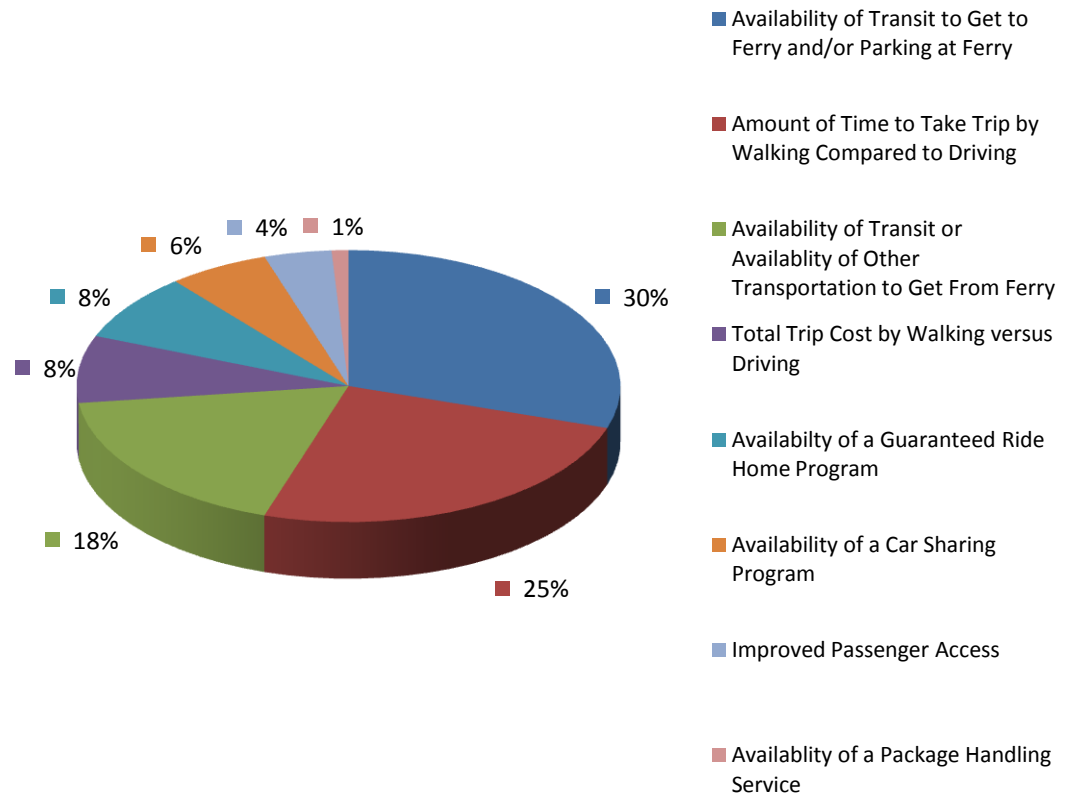
- This is consistent with other findings in both the qualitative research and the on-board surveys that clearly suggest that more riders would be willing to walk onto the ferry if convenient transit service were available.

What is also noteworthy is that the total cost of the trip is only one-third as important as the total amount of time the trip would take – that is cost of time clearly preempts cost of travel.

There are **few** significant or practical differences in the order and/or magnitude of what is important between vehicle drivers by route and/or trip purpose.

- That is, there is nearly universal agreement among all vehicle drivers that the three most important factors in the mode choice decision are the ones listed above.

Figure 31: Importance of Different Incentives / Disincentives in Vehicle Drivers' Mode Choice Decisions



Changes to Services or Trip that Would Motivate Riders to Shift from Driving to Walking On

The final stage of conjoint analysis is to run test scenarios that simulate actual combinations of attributes that could reflect potential options that WSF could offer. In this stage of the analysis, we can test two or more different trip options and obtain an estimate of what percentage of riders would prefer taking this trip as a walk-on passenger rather than continuing to drive on the ferry.

Vehicle Driver Preferences for Current Levels of Service

Generally in a conjoint study, analysts establish a base case that most closely approximates what is available to riders today. Unfortunately for this study, the actual base case varies significantly by route. Moreover, some of the attributes tested (e.g., a package handling service) are not currently available. For example, riders on the Seattle / Bainbridge, Seattle / Bremerton, and the Fauntleroy / Southworth / Vashon triangle route and who use Metro Transit have access to a car sharing and guaranteed ride program. Other routes do not have these services available at all.

Therefore, for analysis purposes, we established a base case scenario at the system-wide level that approximates what would most likely be the current case if equivalent levels of transit and other services were available across the system. In addition, we established two additional “current case” scenarios – each representing a slightly different option for getting to the ferry that are found on different routes within the system. These test scenarios and the assumptions made in setting the current cases are described below:

Table 21: Current Transit Case

Attribute	Conjoint Level # Used	Level
Transportation to Ferry Terminal from Home	2	Regular transit service from a stop near your home to the ferry terminal
Terminal Walkway Improvements	1.5	Open air walkways in half the terminals and overhead, covered walkways in half
Transportation from Terminal to Final Destination	3	Regularly scheduled transit service from terminal direct to a transit center where you transfer to a bus to reach your final destination
Total Trip Time if Walk Onto the Ferry	4	150% of drive time (On average, trips that include transit can take 50 to 100 percent more time than a vehicle trip.)
Cost of Trip to Walk compared with Driving	2	70% of cost to drive
Guaranteed Ride Home Program	2	\$20.00 (This assumes payment of an agreed upon taxi charge at both ends of the trip that is similar to negotiated rates for other transit systems in the region. The average negotiated rate for other transit systems in the region is \$10. Given that a ferry trip would require a taxi at both ends, this rate was doubled.)
Access to a Car Sharing Program at Destination	4	\$80.00 for 5 hour rental (plus cost of gas). Current rate for a full-day flex car rental is \$70 to \$75 / day.
Availability of Package / Luggage Handling Service	3	\$10.00 for up to 5 packages / pieces of luggage (Assumption was based on a standard valet / bellboy rate of \$2.00 per package / piece of luggage.)

Table 22: Current Park & Ride Lot Case

Attribute	Level #	Level
Transportation to Ferry Terminal from Home	3	Drive and park at a park & ride lot for free and take transit to the terminal Currently all park-and-ride lot parking is free
Terminal Walkway Improvements	1.5	Open air walkways in half the terminals and overhead, covered walkways in half
Transportation from Terminal to Final Destination	3	Regularly scheduled transit service (average 15 minute wait) from terminal direct to a transit center where you transfer to a bus to reach your final destination
Total Trip Time if Walk Onto the Ferry	4	150% of drive time
Cost of Trip to Walk compared with Driving	2	70% of cost to drive
Access to a Car Sharing Program at Destination	4	\$80.00 for 5 hour rental (plus cost of gas)
Guaranteed Ride Home Program	4	\$20.00
Availability of Package / Luggage Handling Service	3	\$10.00 for up to 5 packages / pieces of luggage

Table 23: Current Terminal Parking Case

Attribute	Level #	Level
Transportation to Ferry Terminal from Home	6	Drive and park your car in a secure garage at departure terminal for \$5 / day (Current parking at terminal lots averages at or below \$5.00 / day. Terminal parking availability and configuration varies by terminal so decision was made to hold constant at existing rate.)
Terminal Walkway Improvements	1.5	Open air walkways in half the terminals and overhead, covered walkways in half
Transportation from Terminal to Final Destination	3	Regularly scheduled transit service (average 15 minute wait) from terminal direct to a transit center where you transfer to a bus to reach your final destination
Total Trip Time if Walk Onto the Ferry	4	150% of drive time
Cost of Trip to Walk compared with Driving	2	70% of cost to drive
Access to a Car Sharing Program at Destination	4	\$80.00 for 5 hour rental (plus cost of gas)
Guaranteed Ride Home Program	4	\$20.00
Availability of Package / Luggage Handling Service	3	\$10.00 for up to 5 packages / pieces of luggage

Comparing Current Levels of Service to Everything Riders Could Want and Nothing They Would Want

To compare, we also establish a “best case” scenario. This scenario gives the rider everything they want – in other words, those levels of each attribute that had the highest utility are included.

Table 24: Best Case Scenario

Attribute	Level #	Level
Transportation to Ferry Terminal from Home	1	Curb-to-curb transit service from your home – transit picks you up at your home and drops you in front the terminal
Terminal Walkway Improvements	2	Overhead, covered walkways in all terminals
Transportation from Terminal to Final Destination	1	Regularly scheduled transit service (average 15 minute wait) from terminal direct to final destination
Total Trip Time if Walk Onto the Ferry	1	90% of drive time (i.e., total time to walk on, including transit use or time required to drive and park, is 10 percent less than the amount of time riders’ current trip takes)
Cost of Trip to Walk compared with Driving	1	50% of cost to drive
Access to a Car Sharing Program at Destination	1	Free rental for 5 hours (pay cost of gas only)
Guaranteed Ride Home Program	1	Free (cost of ferry only)
Availability of Package / Luggage Handling Service	1	Free for up to 5 packages / pieces of luggage

Finally, we construct a “worst case” scenario. This scenario does not give the rider anything they want – in other words, the trip is constructed giving them the combination of levels that have the lowest overall utility.

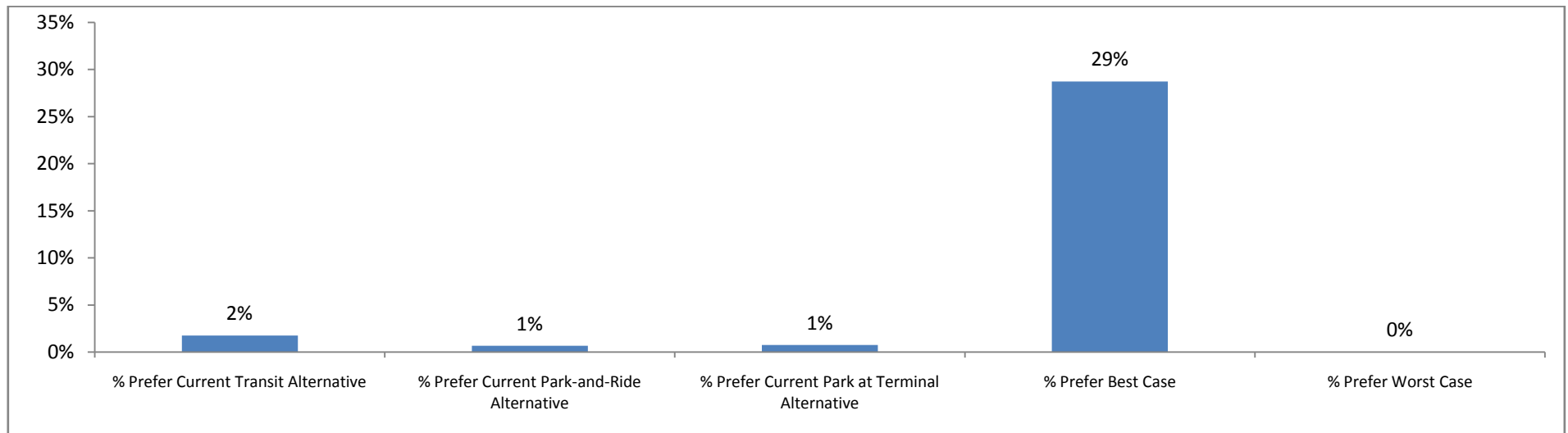
Table 25: Worst Case Scenario

Attribute	Level #	Level
Transportation to Ferry Terminal from Home	4	Drive and park at a park & ride lot for \$5 / day and take transit to the terminal
Terminal Walkway Improvements	1	Open air walkways in all terminals
Transportation from Terminal to Final Destination	8	Park a second car for \$15 / day in secure garage at terminal to use to get to your final destination
Total Trip Time if Walk Onto the Ferry	6	200% of drive time
Cost of Trip to Walk compared with Driving	4	Same cost as driving
Guaranteed Ride Home Program	4	\$80.00
Access to a Car Sharing Program at Destination	4	\$80.00 for 5 hour rental (plus cost of gas)
Availability of Package / Luggage Handling Service	4	\$15.00 for up to 5 packages / pieces of luggage

As the figure below suggests, the three current likely scenarios – taking transit from home, driving to a park-and-ride lot, and/or parking at the terminal combined with taking transit from the ferry to a transit center to get to one’s destination – have little appeal to vehicle drivers and in fact do little better than the worst case. This is to be expected. Otherwise, these current options would already see more current vehicle drivers using them to walk-on instead of driving.

If the best case scenario is available – that is, drivers have curb to curb transit service from their home to the ferry and transit service direct from the ferry to their destination, walkways are covered and heated, it takes drivers less time to travel than if they drive, it costs half of what it costs them to drive, and all services are free – it could be possible that 29 percent of vehicle drivers would choose to take some or all of their existing vehicle trips as a walk-on passenger. This then forms the range of mode shift movement that could be achieved.

Figure 32: Share of Preference for Current Scenarios



Current transit scenario: Transit from stop near home, open air walkways at some terminals / enclosed at others, regularly scheduled service to a transit center to reach destination, takes 50 percent longer than current drive-on trip, 70 percent of cost, guaranteed ride home program would cost \$20, car sharing is \$80, and a package service would cost \$10.

Current park-and-ride scenario: Drive to park-and-ride lot, open air walkways at some terminals / enclosed at others, regularly scheduled service to a transit center to reach destination, takes 50 percent longer than current drive-on trip, 70 percent of cost, guaranteed ride home program would cost \$20, car sharing is \$80, and a package service would cost \$10.

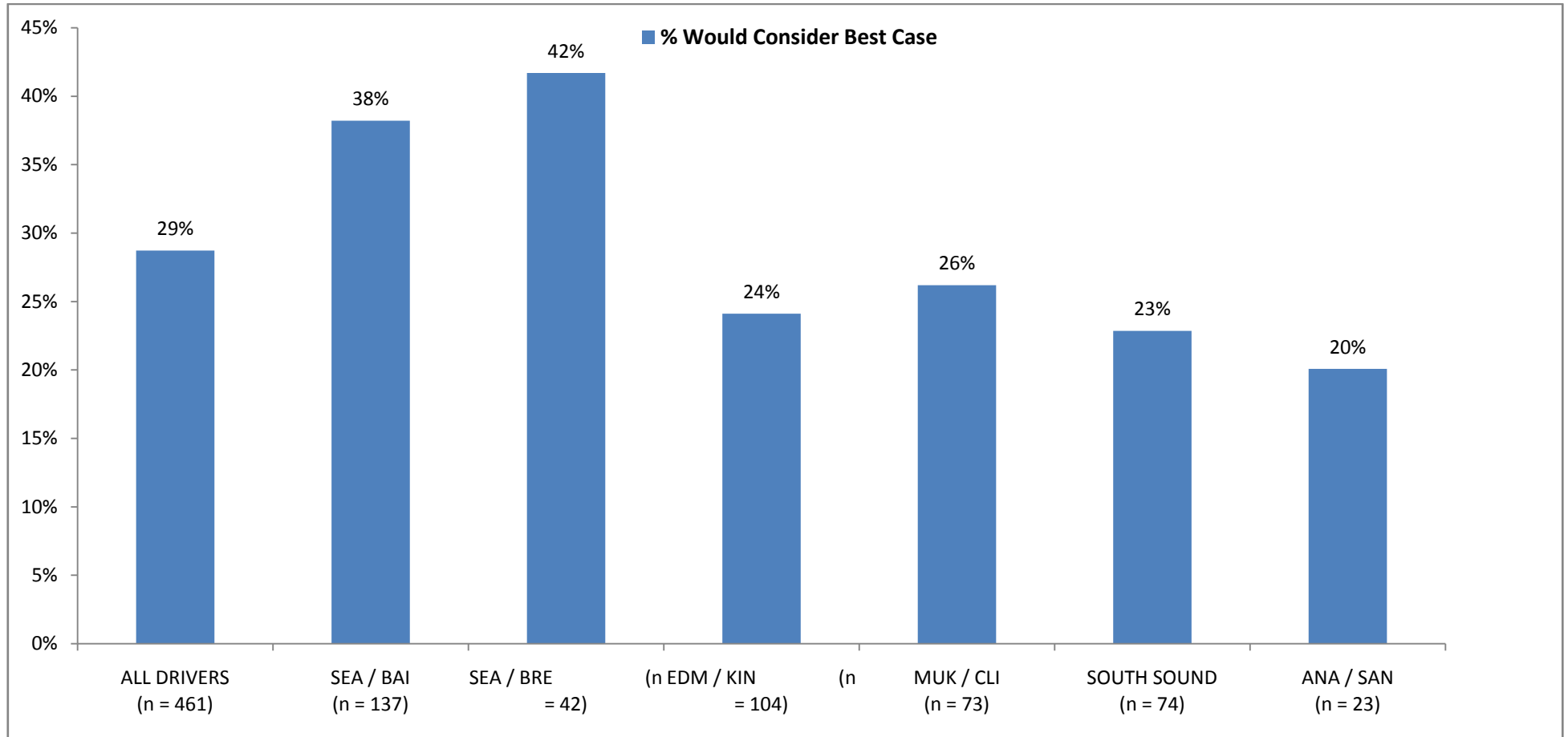
Current park at terminal scenario: Park at terminal for \$5 / day, open air walkways at some terminals / enclosed at others, regularly scheduled service to a transit center to reach destination, takes 50 percent longer than current drive-on trip, 70 percent of cost, guaranteed ride home program would cost \$20, car sharing is \$80, and a package service would cost \$10.

Best case scenario: Transit from stop near home, enclosed walkways at all terminals, regularly scheduled service direct to destination, takes 10 percent less time than current drive-on trip, 50 percent of cost, all services at no cost.

Worst case scenario: Drive to park-and-ride and pay \$5, open air walkways at all terminals, park a second car for \$15 / day, takes twice as long to get to destination, cost is the same as driving, all services charged at highest possible rates.

There are some differences in preferences for the best case scenario by route. It is noteworthy that even the best case scenario would do little to attract riders on the North Sound (Edmonds / Kingston and Mukilteo / Clinton) or South Sound (Fauntleroy / Vashon / Southworth and Point Defiance / Tahlequah) routes. x

Figure 33: Share of Preference for Best Case Scenario by Route



Keystone / Port Townsend riders not included as cell size is very small (n = 8).

Test Scenarios

The final phase of the analysis was to identify several possible scenarios to test if potential offerings could encourage vehicle drivers to choose to walk on for at least some of their trips at a system-wide level.

In terms of the passenger conveniences, the following assumptions were made by ORC as to what potentially realistic solutions WSF and partner agencies could provide. Other scenarios are possible and can be tested at a later date. For this report the assumptions are:

- A guaranteed ride home program could be structured that would cost the rider \$10 to use. This is slightly less than the cost to drive onto the ferry for most routes.
- A car sharing program could be structured that would cost the rider \$40.00 to use for five hours. This is less than the current Flex Car rates charged in Seattle.
- A package handling program could be offered for \$5.00 for five packages.
- Covered walkways to get to the terminal. These are not currently available at all terminals. It is assumed that these could be added to all terminals.

It was then assumed that riders could choose between two options to get from their home to the terminal:

1. Transit Option: Regularly scheduled bus service from a stop near their home to the terminal. Note this is the preferred option for transit service.
2. Drive and Park Option: Riders could drive and park at the ferry terminal for \$5.00 per day.

For these scenarios we held travel time and cost constant at what were believed to be realistic levels. These levels are:

- Cost of trip to walk instead of drive was held constant at 50 percent of the cost. Note that current fares for vehicle drivers average 4.3 the cost of walk-on passenger fares. In reality, the cost to walk onto the ferry is significantly less than the cost of driving.
- Amount of time required to take the trip by walking as opposed to driving was held constant at 10 percent less than current drive time.

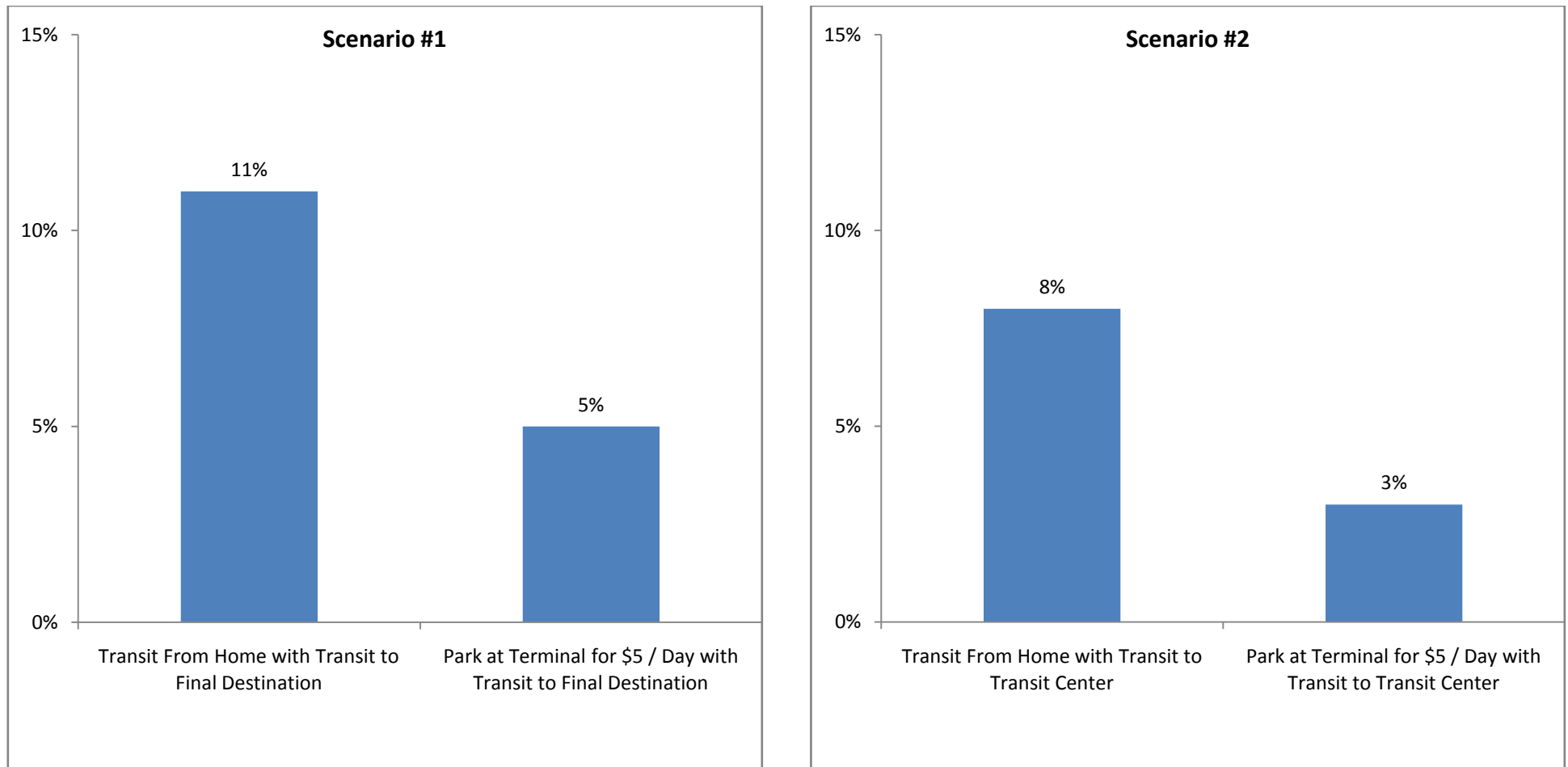
Two transit alternatives were tested that would allow riders to reach their destination at the system-wide level, realizing that for some specific routes, transit is not an option.

1. Transit Scenario #1: Riders would be able to access regularly scheduled transit service that would get them to their final destination. This is the preferred option. However, it may not be realistic given the diversity of riders' destinations and on some routes the overall distance from the ferry to these destinations. It would be difficult for a transit system to serve such a diverse group that could potentially yield limited ridership.
2. Transit Scenario #2: Riders would be able to access regularly scheduled transit service that would get them to a transit center where they could transfer to another bus to get to their destination. This is a more realistic option and mirrors much of the transit service already available in the region.

This analysis, conducted at the system-wide level, suggests that if it were possible to create a system where riders have the option to either take transit from their home or park at the terminal for a minimal fee and transit was then available to take them directly to their final destination, 16 percent of current drivers would consider that trip a possible walk-on trip (all other factors held constant). Eighty-four percent (84%) would still drive on.

The more realistic scenario is the second one – that is, riders either take transit from their home or park at the terminal for a minimal fee and then take a bus to a transit center where they transfer to get to their destination – 11 percent of current drivers would consider that trip a possible walk-on trip and 89 percent would continue to drive on (all other factors held constant).

Figure 34: Share of Preference for Test Scenarios



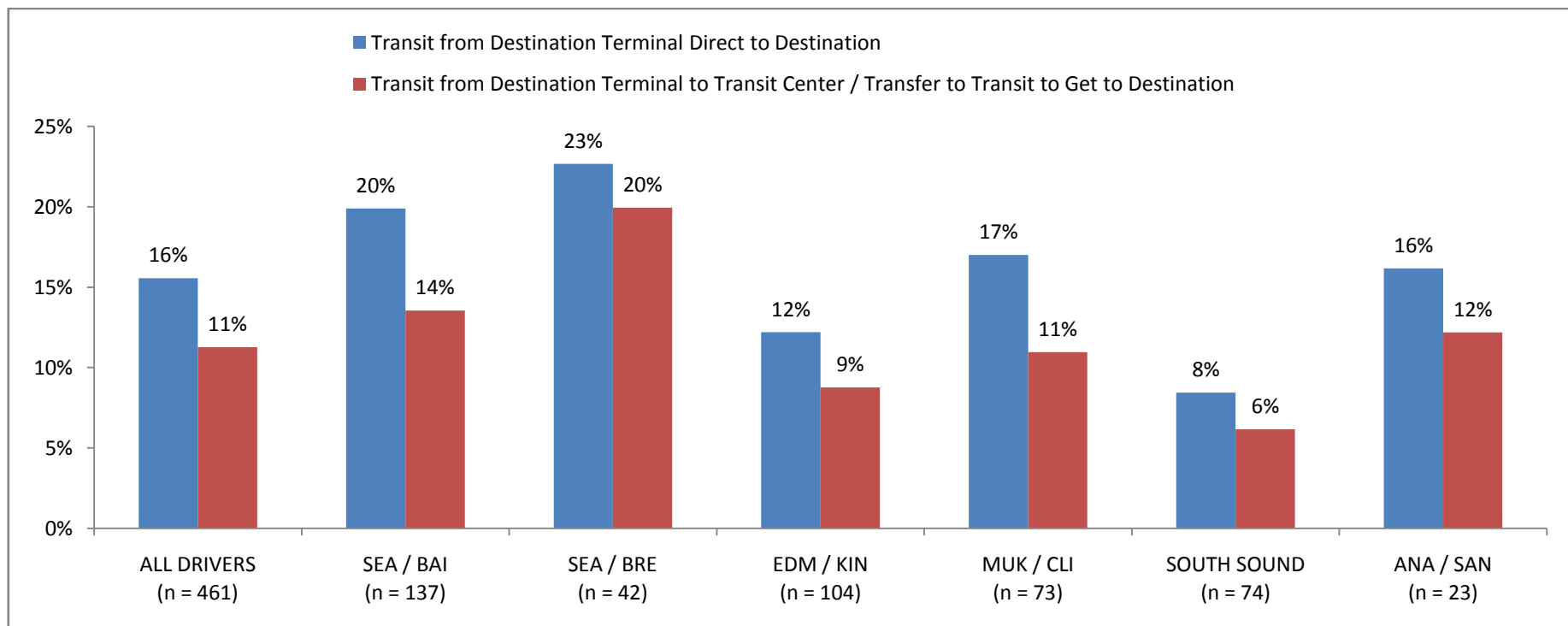
There are some differences in the total share of preference for each scenario by primary route used (from home side) as illustrated below. This analysis illustrates both the overall potential for shifting vehicle drivers on each route as well as differences in their preference for taking transit direct to their destination versus taking a bus to a transit center and transferring.

- Consistent with current levels of walk-on behavior, vehicle drivers on the Seattle / Bremerton and Seattle / Bainbridge routes are the most likely to suggest that with improved transit service they would consider walking on.
- It is noteworthy that despite their reported willingness to use transit (see page 15), the proposed services have the least likelihood of attracting riders on the South Sound routes.

There are also some differences in levels of preference for the two different scenarios. In most cases, vehicle drivers clearly prefer transit to their destination over taking a bus to a transit center and then transferring.

- Vehicle drivers on the Seattle / Bremerton are more likely to view these options equally.

Figure 35: Share of Preference for Two Test Scenarios by Route



Keystone / Port Townsend riders not included as cell size is very small (n = 8)

Key Findings – Attitudes toward Operational Strategies to Encourage Use of Alternative Modes

Summary

The legislation that established the need and requirement to conduct this research specifically requires that the operational strategies must consider methods for shifting vehicular traffic to other modes of transportation. Questions were included on the March on-board survey to assess riders' attitudes toward eight strategies to encourage riders' use of transit and other alternative modes such as vanpooling and carpooling. Respondents indicated the extent to which they agree or disagree with each of the eight proposed strategies on a 5-point Likert scale. These statements were derived from comments in the focus groups related to transit and issues with other alternative modes as well as specific strategies that WSF is considering. We begin by looking at five strategies being considered to encourage the use of transit. Subsequent analysis then looks at the three strategies related to carpooling and vanpooling.

Attitudes toward Operational Strategies to Encourage Use of Transit

Participants in all of the focus groups commented on the need for improved transit services to connect with the ferries. Consistent with these statements, results from the on-board survey show that riders support any and all improvements to public transportation services.

- The majority (60% or more) of all riders agree with all of the proposed improvements. They are clearly most supportive of better coordination of transit and ferry schedules to allow adequate time for riders to transfer.

Those that currently walk onto the ferry are more likely than vehicle drivers to support improvements to transit. Walk-on riders are most interested in:

- Better coordination of schedules,
- Addition of new transit routes, and
- Dedicated transit lanes at terminals to drop off / pick up passengers.

While discussed in all focus groups, riders on the Fauntleroy / Vashon and Point Defiance / Tahlequah routes are the most likely to agree with the proposed improvements to transit service. Specifically, they are interested in:

- Better coordination of schedules, and
- The addition of new routes.

Potentially reflecting the large number of walk-on passengers, riders on Seattle / Bainbridge and Seattle / Bremerton are more likely to suggest that it would be good to provide a dedicated lane for buses to drop off and pick up passengers at the terminals.

Three transit improvements may attract vehicle drivers who indicated they are willing to use transit. These include:

- New transit routes that provide limited or non-stop service from the ferries to major destinations.
- Provision of more park-and-ride lots with good transit connections to the ferry terminals.
- Better coordination of schedules between transit and ferries to allow time for passengers to transfer.

Of these three transit improvements, new transit routes are most important.

Attitudes toward Operational Strategies to Encourage Use of Vanpools / Carpools

In general, riders are less likely to agree with the strategies to encourage the use of vanpools and carpools than with the proposed strategies to encourage use of transit. Moreover, nearly one-third (32%) of riders are neutral in their opinions. This would suggest a lack of interest in vanpools / carpools rather than an actual disagreement that there should be strategies to encourage their use. More than half (54%) of vehicle drivers are unwilling to use vanpools; 50 percent are unwilling to use carpools

Consistent with some statements made in the focus groups regarding the difficulty of forming vanpools traveling to the same destination, riders are most likely to agree with the idea of allowing smaller vanpools.

- Providing dedicated carpool / vanpool staging areas at terminals with priority boarding more clearly distinguishes those who are “very willing” to vanpool from those who are just “somewhat willing” than does allowing for smaller vanpools.
- Similarly, providing dedicated carpool / vanpool staging areas more clearly distinguishes those who are “very willing” to carpool from those who are just “somewhat willing” than does giving unregistered carpools the same benefits as registered carpools.

Detailed Findings – Operational Strategies to Encourage Use of Transit

All Riders

Consistent with the statements in the focus groups, winter riders are positive toward any and all improvements to transit service and connections.

- The majority (60% or more) of all riders agree with all of the proposed improvements. They are clearly most supportive of better coordination of transit and ferry schedules to allow adequate time for riders to transfer.

Table 26: Agreement / Disagreement with Strategies related to Transit Connections and Service

	Coordinate transit and ferry schedules to leave adequate time for passengers to transfer	Provide new transit routes to serve the ferry with limited or non-stop service to major destinations	Provide more park-and-ride lots with good transit connections to ferry terminals	Provide access for buses to drop off / pickup passengers closer to the terminals	Create dedicated lanes for buses to access terminals and drop off passengers
Net Agreement	82%	71%	70%	67%	61%
Strongly Agree	55%	40%	37%	35%	30%
Somewhat Agree	27%	31%	33%	32%	31%
Neutral	13%	23%	23%	25%	30%
Net Disagree	5%	6%	7%	8%	9%
Mean	4.29	4.02	3.97	3.90	3.77
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools? Base: All Winter Riders (n = 5,471)					

[Blank page inserted for pagination purposes.]

Boarding Mode Analysis: Agreement / Disagreement with Strategies related to Transit Connections / Service

The majority of all winter riders, regardless of boarding mode, agrees that there should be improvements to transit connections and service. However, those that currently walk onto the ferry agree more strongly than those that drive on – notably those that are vehicle drivers. Some (34%) walk-on passengers already use transit to access the ferry. This would suggest that their high levels of agreement are directed toward improvements to their existing transit service. Specifically walk-on passengers are more likely to agree with. . .

- Better coordination of transit and ferry schedules to allow time to transfer.
- The addition of new transit routes serving the ferry and providing limited or non-stop service to major destinations.
- Provide dedicated lanes that allow buses to access terminals to drop off and pick up passengers safely and conveniently.

Table 27: Agreement / Disagreement with Strategies related to Transit Connections / Service by Boarding Mode

	All Winter Riders (n=5,471)	Vehicle Drivers (n=2,358)	Vehicle Passengers (n=618)	Walk-On Passengers (n=2,495)
	Coordinate transit and ferry schedules to leave adequate time for passengers to transfer			
Net Agreement	82%	79%	83%	86%
Neutral	13%	15%	13%	10%
Net Disagreement	5%	6%	4%	4%
	Provide new transit routes to serve the ferry with limited or non-stop service to major destinations			
Net Agreement	71%	69%	71%	73%
Neutral	23%	24%	22%	21%
Net Disagreement	6%	7%	6%	6%
	Provide more park-and-ride lots with good transit connections to ferry terminals			
Net Agreement	70%	69%	73%	71%
Neutral	23%	22%	22%	23%
Net Disagreement	7%	9%	5%	5%
	Provide access for buses to drop off / pickup passengers closer to the terminals			
Net Agreement	67%	66%	69%	67%
Neutral	25%	25%	24%	26%
Net Disagreement	8%	9%	7%	7%
	Create dedicated lanes for buses to access terminals and drop off passengers			
Net Agreement	61%	57%	61%	64%
Neutral	30%	31%	33%	27%
Net Disagreement	9%	11%	7%	9%
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?				

Route Level Analysis: Agreement / Disagreement with Strategies related to Transit Connections / Service

While the general order and level of agreement is similar across routes, there are some differences that suggest some possibilities for targeted improvements. Specifically. . .

- Riders on the Fauntleroy / Vashon and Point Defiance / Tahlequah routes are more likely than riders on other routes to suggest specific improvements to transit service – better schedule coordination and new transit service.
 - Ninety percent (90%) of Fauntleroy / Vashon and 93 percent of Point Defiance / Tahlequah riders agree with improved schedule coordination. Moreover, the level of their agreement is very high – 76 percent of Fauntleroy / Vashon riders and 65 percent of Point Defiance / Tahlequah riders strongly agree there should be better coordination of service.
 - Eighty-three percent (83%) of Fauntleroy / Vashon and 80 percent of Point Defiance / Tahlequah riders agree there should be new service. Again the level of their agreement is quite high – 56 percent of Fauntleroy / Vashon and 48 percent of Point Defiance / Tahlequah riders “strongly agree.”
- Riders on the Edmonds / Kingston and Keystone / Port Townsend routes are more likely to agree that there should be improved access to drop off / pick up passengers at the terminals.
- Finally, riders on Seattle / Bainbridge, Seattle / Bremerton, and Fauntleroy / Vashon routes are the most likely to suggest that it would be good to provide a dedicated lane for buses to drop off and pick up passengers at the terminals.

Table 28: Agreement / Disagreement with Strategies related to Transit Connections / Service by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Coordinate transit and ferry schedules to leave adequate time for passengers to transfer										
Net Agreement	82%	83%	83%	79%	78%	90%	82%	93%	78%	78%
Neutral	13%	12%	12%	15%	15%	8%	13%	3%	14%	17%
Net Disagreement	5%	4%	5%	5%	7%	2%	5%	3%	8%	5%
Provide new transit routes to serve the ferry with limited or non-stop service to major destinations										
Net Agreement	71%	69%	71%	70%	67%	83%	73%	80%	65%	74%
Neutral	23%	25%	23%	24%	26%	13%	21%	16%	23%	19%
Net Disagreement	6%	6%	6%	6%	8%	4%	6%	5%	12%	7%
Provide more park-and-ride lots with good transit connections to ferry terminals										
Net Agreement	70%	70%	69%	72%	68%	75%	67%	74%	72%	69%
Neutral	23%	23%	24%	21%	24%	20%	25%	17%	21%	24%
Net Disagreement	7%	7%	7%	6%	8%	5%	8%	9%	7%	7%
Provide access for buses to drop off / pickup passengers closer to the terminals										
Net Agreement	67%	65%	68%	70%	63%	71%	62%	68%	75%	68%
Neutral	25%	27%	24%	23%	27%	23%	31%	23%	16%	26%
Net Disagreement	8%	8%	7%	7%	10%	6%	8%	9%	9%	6%
Create dedicated lanes for buses to access terminals and drop off passengers										
Net Agreement	61%	63%	63%	60%	59%	64%	52%	63%	55%	51%
Neutral	30%	28%	31%	32%	32%	26%	36%	22%	32%	37%
Net Disagreement	9%	9%	7%	9%	9%	10%	13%	15%	13%	12%
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?										

Time of Day / Week Travel Analysis: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service

Of particular interest in this research is a desire to identify strategies that would encourage vehicle drivers, notably peak weekday vehicle drivers, to use alternative modes of transportation to access the ferry. This analysis focuses only on vehicle drivers and examines the extent to which there are differences between those traveling at different times of the day or week.

- There are no significant differences in the extent to which vehicle drivers traveling at different times agree or disagree with the proposed strategies to improve transit connections and services.

Table 29: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Time of Day / Week Travel

	Winter Vehicle Drivers			
	All (n=2,358)	Peak Weekday (n=1,156)	Off-Peak Weekday (n=619)	Weekend (n=583)
Coordinate transit and ferry schedules to leave adequate time for passengers to transfer				
Net Agreement	79%	81%	78%	79%
Neutral	15%	14%	17%	13%
Net Disagreement	6%	5%	6%	7%
Provide new transit routes to serve the ferry with limited or non-stop service to major destinations				
Net Agreement	69%	71%	68%	69%
Neutral	24%	23%	25%	24%
Net Disagreement	7%	6%	7%	7%
Provide more park-and-ride lots with good transit connections to ferry terminals				
Net Agreement	69%	68%	68%	70%
Neutral	22%	22%	23%	20%
Net Disagreement	9%	9%	8%	10%
Provide access for buses to drop off / pickup passengers closer to the terminals				
Net Agreement	66%	63%	66%	69%
Neutral	25%	26%	27%	22%
Net Disagreement	9%	10%	7%	9%
Create dedicated lanes for buses to access terminals and drop off passengers				
Net Agreement	57%	54%	58%	60%
Neutral	31%	32%	33%	28%
Net Disagreement	11%	13%	9%	12%
<i>Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?</i>				

Other Significant Findings: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Willingness to Use Transit

Winter vehicle drivers who are willing to use transit show a high level of interest in transit improvements. Three potential areas for improvement clearly differentiate those vehicle drivers who are willing to use transit from those who are not. These include, listed in the order of discrimination:

- New transit routes that provide limited or non-stop service from the ferries to major destinations.
- Provision of more park-and-ride lots with good transit connections to the ferry terminals.
- Better coordination of schedules between transit and ferries to allow time for passengers to transfer.

The provision of new routes appears to be the factor that may represent the greatest opportunity to shift those vehicle drivers who are “very willing” to use transit to actual use.

- While overall agreement with the provision of new routes is relatively high for both vehicle drivers who are very and somewhat willing, 60 percent of those who are “very willing” to use transit “strongly agree” compared with just 39 percent of those who are “somewhat willing.”
- Additional analysis demonstrates that of the five strategies the addition of new transit routes is the single proposal that clearly distinguishes those vehicle drivers who are “very willing” from those who are just “somewhat willing” to use transit.

Table 30: Winter Vehicle Drivers' Agreement / Disagreement with Strategies related to Transit Connections / Service by Willingness to Use Transit

	Winter Vehicle Drivers			
	All (n=2,358)	Very Willing (n=488)	Somewhat Willing (n=540)	Neutral / Not Willing (n=988)
Coordinate transit and ferry schedules to leave adequate time for passengers to transfer				
Net Agreement	79%	90%	87%	68%
Neutral	15%	5%	8%	24%
Net Disagreement	6%	5%	5%	8%
Provide new transit routes to serve the ferry with limited or non-stop service to major destinations				
Net Agreement	69%	85%	78%	55%
Neutral	24%	9%	18%	35%
Net Disagreement	7%	6%	4%	9%
Provide more park-and-ride lots with good transit connections to ferry terminals				
Net Agreement	69%	82%	76%	59%
Neutral	22%	11%	17%	30%
Net Disagreement	9%	7%	7%	11%
Provide access for buses to drop off / pickup passengers closer to the terminals				
Net Agreement	66%	74%	73%	57%
Neutral	25%	18%	20%	32%
Net Disagreement	9%	8%	7%	11%
Create dedicated lanes for buses to access terminals and drop off passengers				
Net Agreement	57%	69%	66%	46%
Neutral	31%	22%	26%	39%
Net Disagreement	11%	8%	8%	15%
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?				

Detailed Findings – Operational Strategies to Encourage Use of Vanpools and Carpools

All Riders

In general, riders are less likely to agree with the strategies to encourage the use of vanpools and carpools than with the proposed strategies to encourage use of transit. Moreover, nearly one-third (32%) of riders are neutral in their opinions. This would suggest a lack of interest in vanpools / carpools rather than an actual disagreement that there should be strategies to encourage their use. More than half (54%) of vehicle drivers are unwilling to use vanpools; 50 percent are unwilling to use carpools.

- Of particular note is the relatively high level of disagreement (21%) with the proposal to give unregistered carpools the same benefits as registered carpools. This would suggest that riders recognize the potential for abuse of this system – for example, single occupant vehicles stopping to pick up a convenient walk-on passenger using transit from a park-and-ride lot in order to get the benefits of priority boarding.

Table 31: Agreement / Disagreement with Strategies related to Vanpool / Carpool Strategies

	Allow Smaller Vanpools (e.g., 7 instead of 11 persons)	Provide Dedicated Carpool / Vanpool Staging Areas at Terminals with Priority Boarding	Give Unregistered Carpools the Same Benefits as Registered Carpools
Net Agreement	60%	56%	47%
Strongly Agree	28%	26%	21%
Somewhat Agree	32%	30%	26%
Neutral	32%	32%	32%
Net Disagree	8%	11%	21%
Mean	3.76	3.66	3.37
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools? Base: All Winter Riders (n = 5,471)			

Boarding Mode Analysis: Agreement / Disagreement with Strategies related to Vanpool / Carpool Strategies

Vehicle passengers are more likely than both vehicle drivers and walk-on passengers to agree with the proposed vanpool strategies.

- Sixty-five percent (65%) of vehicle passengers agree that there should be a capability for smaller vanpools and 62 percent agree that there should be dedicated carpool / vanpool staging areas. This could suggest that vehicle passengers are potentially more interested in vanpooling than vehicle drivers and walk-on passengers and that these represent potential barriers to their ability to participate in a vanpool. Comments in the focus groups did suggest that it is often difficult to put together a vanpool of 11 passengers all going to the same destination.

Table 32: Agreement / Disagreement with Strategies related to Carpool / Vanpool Strategies by Boarding Mode

	All Winter Riders (n=5,471)	Vehicle Drivers (n=2,358)	Vehicle Passengers (n=618)	Walk-On Passengers (n=2,495)
Allow Smaller Vanpools				
Net Agreement	60%	60%	65%	57%
Neutral	32%	31%	30%	34%
Net Disagreement	8%	9%	5%	9%
Provide Dedicated Carpool / Vanpool Staging Areas at Terminals with Priority Boarding				
Net Agreement	56%	55%	62%	55%
Neutral	32%	33%	27%	35%
Net Disagreement	11%	13%	11%	10%
Given Unregistered Carpools the Same Benefits as Registered Carpools				
Net Agreement	47%	48%	51%	43%
Neutral	32%	31%	26%	38%
Net Disagreement	21%	21%	23%	19%
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?				

Route Level Analysis: Agreement / Disagreement with Strategies related to Vanpools / Carpools

With two exceptions, there are few significant differences in attitudes across the routes.

- A higher than average percentage of riders on three routes – Mukilteo / Clinton, Fauntleroy / Vashon, and Point Defiance / Tahlequah – agrees with the proposal to allow smaller vanpools.
- A higher than average percentage of riders on three routes – Point Defiance / Tahlequah, Seattle / Bainbridge, and Mukilteo / Clinton – are more likely to agree that there should be dedicated carpool / vanpool staging areas at terminals to allow for priority boarding. Comments made in the focus groups with Seattle / Bainbridge and Mukilteo / Clinton riders suggest that there are problems with the layout of the vehicle loading areas that make it difficult for vanpools to get to these terminals for their scheduled ferry.

Table 33: Agreement / Disagreement with Strategies related to Vanpools / Carpools by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Allow Smaller Vanpools										
Net Agreement	60%	61%	53%	60%	63%	64%	55%	65%	61%	53%
Neutral	32%	30%	39%	33%	27%	31%	35%	27%	28%	41%
Net Disagreement	8%	9%	8%	7%	9%	6%	10%	8%	11%	6%
Provide Dedicated Carpool / Vanpool Staging Areas at Terminals with Priority Boarding										
Net Agreement	56%	59%	51%	56%	58%	51%	51%	64%	58%	54%
Neutral	32%	30%	38%	31%	31%	39%	37%	26%	27%	34%
Net Disagreement	11%	11%	11%	13%	11%	10%	12%	9%	15%	12%
Give Unregistered Carpools the Same Benefits as Registered Carpools										
Net Agreement	47%	45%	43%	48%	49%	47%	45%	43%	53%	53%
Neutral	32%	31%	38%	32%	29%	32%	33%	34%	32%	39%
Net Disagreement	21%	23%	18%	20%	23%	22%	22%	23%	16%	8%
<i>Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?</i>										

Other Significant Findings: Vehicle Drivers' Agreement / Disagreement with Strategies related to Vanpool / Carpool by Willingness to Vanpool / Carpool

Overall, those that are willing to consider vanpooling or carpooling are more likely than those who are not willing to agree that WSF should consider these proposals.

- Providing dedicated carpool / vanpool staging areas at terminals with priority boarding more clearly distinguishes those who are “very willing” to vanpool from those who are just “somewhat willing” than does allowing for smaller vanpools.
- Similarly, providing dedicated carpool / vanpool staging areas more clearly distinguishes those who are “very willing” to carpool from those who are just “somewhat willing” than does giving unregistered carpools the same benefits as registered carpools.

Table 34: Vehicle Drivers' Agreement / Disagreement with Strategies related to Vanpool / Carpool by Willingness to Vanpool / Carpool

	Willingness to Vanpool			
	Vehicle Drivers (n=2,358)	Very Willing (n=179)	Somewhat Willing (n=235)	Neutral / Not Willing (n=1,567)
	Allow Smaller Vanpools			
	Net Agreement	60%	75%	75%
Neutral	31%	13%	20%	35%
Net Disagreement	9%	12%	5%	10%
Provide Dedicated Carpool / Vanpool Staging Areas at Terminals with Priority Boarding				
Net Agreement	55%	72%	75%	49%
Neutral	33%	21%	19%	36%
Net Disagreement	13%	6%	6%	15%
	Willingness to Carpool			
	Vehicle Drivers (n=2,358)	Very Willing (n=204)	Somewhat Willing (n=309)	Neutral / Not Willing (n=1,467)
	Provide Dedicated Carpool / Vanpool Staging Areas at Terminals with Priority Boarding			
	Net Agreement	55%	66%	71%
Neutral	33%	27%	21%	36%
Net Disagreement	13%	6%	8%	15%
Give Unregistered Carpools the Same Benefits as Registered Carpools				
Net Agreement	48%	51%	63%	44%
Neutral	31%	21%	23%	34%
Net Disagreement	21%	28%	14%	23%
Question: To what extent do you agree or disagree that WSF should do each of the following to encourage more use of transit, carpools, and vanpools?				

Key Findings – Attitudes toward Proposed Operational Strategies to Improve Passenger Access

In the March On-Board Survey, respondents were asked to indicate the extent to which they agree or disagree that WSF should implement ten (10) strategies to improve bicycle and walk-on passenger access as a means to encourage more bicycle and walk-on traffic. These strategies include:

1. Provide or improve sidewalk connections to terminals.
2. Provide or improve bicycle connections (bike lanes, paths, wide shoulders) to the terminal.
3. Provide covered, separated pedestrian walkways connecting directly to the vessel passenger deck.
4. Provide secure and covered parking with covered walkways to / from terminals / boats.
5. Provide dedicated lanes to safely drop off passengers at the terminals.
6. Offer fare discounts or other incentives to walk-on and bike-on passengers.
7. Allow passengers to reserve and pay for parking at the terminal online or by phone.
8. Provide sheltered / secure bike parking at terminals.
9. Develop a bike sharing program at terminals.
10. Provide flex car rentals on the destination side to drive to where they need to go.

Summary – Attitudes toward Proposed Operational Strategies to Improve Passenger Access

In general, a majority of winter riders support nearly all of the proposals to improve passenger access at the ferry terminals.

- With the exception of secure and covered parking with covered walkways to the terminals (49 percent support), providing system that allows drivers to reserve and pay for parking at the terminal online or by phone (47 percent support) and offering a bike sharing program (35 percent supports), and, all improvements are supported by the majority (57 percent or more) of the respondents.

Winter riders show the strongest support for continuing to provide fare discounts or other incentives to walk-on and bicycle passengers and providing dedicated lanes to safely drop passengers off at the terminals. Other proposals that receive higher than average support include:

- Improved sidewalk and bicycle connections to the terminals;
- Providing covered and separated walkways that connect directly to the vehicle passenger; and
- Offering a car sharing program.

Not surprisingly, while walk-on riders support most of these proposals more strongly than do their vehicle driver counterparts, they are clearly differentiated from each other on four key proposals. These include (listed in order of most desired):

- Offer fare discounts and other incentives to walk-on and bike-on passengers – more support from walk-on passengers;
- Allow passengers to reserve and pay for parking by phone or on the web – more support from vehicle drivers;
- Provide secure and covered parking with covered walkways – more support from walk-on passengers; and
- Provide secure and covered walkways that connect directly to the passenger deck – more support from vehicle drivers.

It is noteworthy, therefore, that the two proposed improvements to parking could potentially attract vehicle drivers to walk on the ferry.

There are differences in attitudes toward these proposals by route, suggesting that there are some route specific needs. These include:

- Provide dedicated drop off / pick up lanes: Seattle / Bainbridge, Seattle / Bremerton, Fauntleroy / Vashon, and Mukilteo / Clinton;
- Improve sidewalk connections: Seattle / Bainbridge and Seattle / Bremerton;
- Improve bicycle connections and provide sheltered / secure bicycle parking: Seattle / Bainbridge;
- Car sharing program: Anacortes / San Juans and Fauntleroy / Vashon;
- Reserve and pay for parking by phone / web: Anacortes / San Juans and Mukilteo / Clinton; and
- Secure and covered parking with walkways to terminals: Seattle / Bremerton, Edmonds / Kingston, and Mukilteo / Clinton.

Finally, and as would be expected, those that feel WSF should invest in moving people and, to a somewhat lesser extent, those that feel they should invest equally show significantly stronger support for nearly all strategies to improve passenger access than do those who feel the agency should invest in moving vehicles. This is consistent with the boarding mode analysis discussed earlier. Looking only at vehicle drivers, the proposals that most clearly differentiate those that feel WSF should invest in moving people as opposed to moving vehicles include (listed in order of most desired):

- Continue to offer fare discounts and other incentives to walk-on and bicycle passengers;
- Improve bicycle connections;
- Allow passengers to reserve and pay for parking by phone or online;
- Offer a car sharing program; and
- Provide dedicated lanes to safely drop off and pick up passengers.

[Blank page inserted for pagination purposes.]

Detailed Findings – Attitudes toward Proposed Operational Strategies to Improve Passenger Access

All Winter Riders: Attitudes toward Proposed Operational Strategies to Improve Passenger Access

The March On-Board Survey contained ten (10) statements describing different strategies to improve bicycle and walk-on passenger access to the ferry terminals and ferries. Respondents were asked to rate the extent to which they agree or disagree that WSF should implement each strategy to encourage more bicycle and walk-on traffic. Responses were given on a five-point Likert scale with “1” representing “strongly disagree” and “5” representing “strongly agree.”

In general, winter riders support all of the suggested improvements / enhancements to passenger access.

- With the exception of secure and covered parking with covered walkways to the terminals, offering a bike sharing program, and providing system that allows drivers to reserve and pay for parking at the terminal online or by phone, all improvements are supported by the majority (57 percent or more) of the respondents.

Two proposals receive the **highest levels of overall support**: (1) providing fare discounts or other incentives to walk-on and bicycle passengers and (2) providing dedicated lanes to safely drop passengers off at the terminals.

- Nearly four out of five (79%) winter riders agree that WSF should **provide fare discounts or offer other incentives to walk-on and bicycle passengers**. Note that during the March survey period walk-on passengers received an average discount of 75 percent off of the fare paid by vehicle drivers. Bicycle passengers received the same discount. However, they also paid an extra \$1.00 to bring their bicycle on-board.
 - Support for this proposal is very high with more than twice as many winter riders “strongly agreeing” with this proposal as “somewhat agreeing” – 56 percent compared with 23 percent, respectively.
- Nearly, three out of four (74%) winter riders agree that WSF should **provide dedicated lanes to safely drop off passengers at terminals**.
 - While there is generally a high level of overall agreement with this proposal, the extent of agreement is more evenly distributed between those that “strongly agree” (40%) and those that “somewhat agree” (34%).

Five additional proposals receive above-average levels of support with slightly less than three out of five winter riders agreeing that WSF should implement these strategies.

- Support is nearly equal for **improved sidewalk and bicycle connections** to the terminals. Improved bicycle connections were described as bike lanes, paths, and/or wide shoulders.
 - Nearly three out of five (57%) winter riders agree that WSF should improve sidewalk connections to the terminals. A nearly equal number “strongly agrees” versus “somewhat agrees” with this proposal – 29 percent compared to 28 percent, respectively.
 - Similarly, 58 percent of winter riders agree that WSF should improve bicycle connections to the terminals. An equal number (29%) “strongly agrees” versus “somewhat agrees.”
 - Most riders have similar responses to both proposals. Eighty-two percent (82%) of those who agree that there should be improved sidewalk connections also agree that bicycle connections should be improved.

- Fifty-eight percent (58%) of all winter riders also agree that WSF should provide **sheltered and secure bike parking at the terminals**.
 - Again, the level of agreement is almost equally divided between those that “strongly agree” (28%) and those that just “somewhat agree” (30%).
- Support is also generally high for providing **covered, separated pedestrian walkways that connect directly to the vehicle passenger deck**. Nearly three out of five (58%) winter riders agree with this proposed improvement.
 - Again, the level of agreement is equally divided between those that “strongly agree” (29%) and those that just “somewhat agree” (29%).
- Finally, 57 percent of all winter riders agree that there should be a **car sharing program on the destination side**. This was described as “flex car rentals on the destination side to drive to where riders need to go.”
 - As with other proposals, the level of agreement is divided between those that “strongly agree” (27%) and those that “somewhat agree” (30%).

Just under half (49%) of all winter riders agree that passengers should be able to **reserve and pay for parking** at the terminal **on-line or by phone**.

- Support is equally divided by those that “strongly agree” (25%) and those that “somewhat agree” (26%).

Less than half (47%) of all winter riders agree that WSF should provide **secure and covered parking with covered walkways to / from terminals and ferries**.

- As with other proposals, support is almost equally divided between those that “strongly agree” (24%) and those that “somewhat agree” (25%).
- This proposal has the highest percentage (22%) of winter riders who disagree.

Finally, there is relatively low support for a **bike sharing proposal**.

- Most likely reflecting personal preferences for / interest in bicycling, only slightly more than one-third (35%) of all winter riders agree that WSF should develop a bike sharing program at the terminals. Only 16 percent of all winter riders “strongly agree” with this proposal, the lowest percentage of winter riders to “strongly agree” with any of the ten proposals.

Figure 36: Winter Riders' Attitudes toward Proposed Operational Strategies to Improve Passenger Access



Question: WSF is considering strategies to improve bicycle and walk-on passenger access. For each item below, indicate the extent to which you agree or disagree WSF should implement this strategy to encourage more bicycle and walk-on access.

Mean is based on a five-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees." The mid-point is "3."

Base: All Respondents – March On-Board Surveys (n = 5,471)

[Blank page inserted for pagination purposes.]

Boarding Mode Results: Operational Strategies to Improve Passenger Access

All but three of the proposed **strategies to improve passenger access appeal more strongly to current walk-on passengers than to current vehicle drivers**. Vehicle passengers are also more likely than vehicle drivers to support these proposals, although their support is not consistently as high as that of walk-on passengers.

- Walk-on passengers are more likely than both vehicle passengers and vehicle drivers to agree that WSF should continue to **offer fare discounts and other incentives to walk-on passengers**. Almost nine out of ten (89%) walk-on riders agree with this proposal. Moreover, the level of agreement is very high with more than three times as many walk-on riders strongly agreeing compared to just somewhat agreeing – 70 percent compared to 19 percent, respectively.
 - Vehicle passengers are also more likely than vehicle drivers to agree that WSF should offer fare discounts and other incentives to encourage more walk-on traffic. Four out of five (80%) vehicle passengers agree with this proposal. Moreover, twice as many “strongly agrees” as “somewhat agrees” – 54 percent compared to 26 percent, respectively.
- Walk-on passengers and, to a lesser extent, vehicle passengers are also more likely than vehicle drivers to support providing **dedicated lanes at the terminals to safely drop off passengers**. However, the differences in attitudes here are less pronounced.
 - Both walk-on and vehicle passengers are significantly more likely than vehicle drivers to “strongly agree” that WSF should provide dedicated drop-off lanes at the terminals – 44 and 42 percent compared with 37 percent, respectively.
- Both walk-on and vehicle passengers are more likely than vehicle drivers to support the twin proposals to **improve sidewalk and bicycle connections**. Notably, walk-on and vehicle passengers are more likely than vehicle drivers to “strongly agree” with these proposals.
 - Three out of five (60%) walk-on passengers agree that WSF should improve sidewalk connections to the terminals – 32 percent “strongly agrees.” Similarly, three out of five (59%) vehicle passengers agree that WSF should improve sidewalk connections to the terminals – 30 percent “strongly agrees.”
 - Three out of five (61%) walk-on passengers agree that WSF should improve bicycle connections to the terminals – 32 percent “strongly agrees.” Among bicyclists (a sub-segment of walk-on passengers), overall support increases to 90 percent – 74 percent “strongly agrees” and 16 percent “somewhat agrees.”
- Walk-on passengers are more likely than both vehicle passengers and vehicle drivers to support the proposal to provide **sheltered bike parking at the terminals**. This is due, in part, to the influence of bicyclists included with the walk-on passenger segment.
 - A total of 62 percent of walk-on passengers agree with the proposal to provide sheltered and secure bike parking at the ferry terminal; 31 percent “strongly agrees.” Among bicyclists, overall support increases to 80 percent – 51 percent “strongly agrees” and 29 percent “somewhat agrees.”
 - Somewhat fewer (57%) vehicle passengers agree with this proposal. However, nearly the same percentage (30%) “strongly agrees.”

- Both walk-on and vehicle passengers are more likely than vehicle drivers to agree with the idea of providing **covered, separated pedestrian walkways** connecting directly to the vessel passenger deck. Notably walk-on and vehicle passengers are more likely to “strongly agree” with the proposal.
 - Sixty-one percent (61%) of walk-on passengers agree with the proposal to provide covered separated pedestrian walkways; 33 percent “strongly agrees.” Almost the same percentage (62%) of vehicle passengers agrees with this improvement. Slightly fewer (31%) “strongly agrees.”
- Finally, walk-on passengers are more likely than both vehicle passengers and vehicle drivers to agree that WSF should offer a **bike sharing program**.

There are no significant differences in overall agreement with whether WSF should offer car sharing / flex car rentals on the destination side for passengers to use to get to their final destination.

- It is noteworthy that vehicle passengers are more likely than vehicle drivers and walk-on passengers to “strongly agree” with this proposal – 32 percent compared to 26 percent (both drivers and walk-on passengers), respectively. On the other hand, a greater percentage (32%) of walk-on passengers “somewhat agree.”

Not surprisingly, the two proposals for parking are more likely to appeal to vehicle drivers and vehicle passengers. This would suggest that implementation of these proposals would be the most effective in achieving the desired goal of moving vehicle drivers to becoming walk-on passengers at least some of the time.

- Just over half of vehicle drivers (51%) and vehicle passengers (54%) agree with the proposal to allow passengers to **reserve and pay for parking** at the terminals **by phone or online** compared to 43 percent of walk-on passengers.
 - Again, it is noteworthy that vehicle passengers are more likely than vehicle drivers to “strongly agree” that WSF should implement this program – 30 percent compared with 24 percent, respectively. This could suggest that this strategy may not decrease the total number of vehicles on the ferry but rather have the effect of decreasing the number of occupants in a vehicle.
- Vehicle passengers and, to a lesser extent, vehicle drivers also are more likely than walk-on passengers to support the proposal to provide **secure and covered parking with covered walkways to / from terminals and ferries** – 50 and 48 percent compared with 45 percent, respectively. Note that none of the current terminals offer covered parking.
 - As with the other parking proposal, vehicle passengers are more likely than vehicle drivers to “strongly agree” with this proposal – 28 percent compared with 22 percent, respectively.

Table 35: Attitudes toward Operational Strategies to Improve Passenger Access by Boarding Mode

		Offer Fare Discounts / Other Incentives	Dedicated Drop-Off Lanes	Improve Sidewalk Connections	Improve Bicycle Connections	Sheltered Bike Parking	Covered / Separated Walkways	Offer Car Sharing Programs	Reserve / Pay for Parking by Phone / Web	Secure / Covered Parking w/ Walkways	Offer Bike Sharing Program
% Net Agreement	Vehicle Drivers	71%	71%	53%	56%	55%	54%	56%	51%	48%	33%
	Vehicle Passengers	80%	74%	59%	60%	57%	62%	59%	54%	50%	33%
	Walk-On Passengers	89%	77%	60%	61%	62%	61%	58%	43%	45%	37%
% Strongly Agree	Vehicle Drivers	46%	37%	25%	26%	25%	24%	26%	24%	22%	14%
	Vehicle Passengers	54%	44%	30%	32%	30%	31%	32%	30%	28%	17%
	Walk-On Passengers	70%	42%	32%	32%	31%	33%	26%	20%	21%	17%
% Somewhat Agree	Vehicle Drivers	25%	34%	28%	30%	30%	30%	30%	27%	26%	19%
	Vehicle Passengers	26%	30%	29%	28%	27%	30%	27%	24%	22%	16%
	Walk-On Passengers	19%	35%	28%	29%	31%	28%	32%	23%	24%	20%
Mean	Vehicle Drivers	3.98	3.94	3.61	3.61	3.62	3.56	3.57	3.46	3.37	3.15
	Vehicle Passengers	4.23	4.08	3.75	3.76	3.75	3.77	3.73	3.57	3.43	3.24
	Walk-On Passengers	4.51	4.08	3.81	3.79	3.81	3.79	3.65	3.34	3.32	3.31

Question: WSF is considering strategies to improve bicycle and walk-on passenger access. For each item below, indicate the extent to which you agree or disagree WSF should implement this strategy to encourage more bicycle and walk-on access.

Mean is based on a five-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees." Three would be the mid-point.

Base: Vehicle Drivers – March On-Board Surveys (n = 2,358)

Vehicle Passengers – March On-Board Surveys (n = 618)

Walk-On Passengers – March On-Board Surveys (n = 2,495)

Route Level Results: Operational Strategies to Improve Passenger Access

Offer Fare Discounts and Other Incentives

Winter riders on three routes – **Seattle / Bainbridge**, **Seattle / Bremerton**, and **Fauntleroy / Vashon** – are the most likely to agree that WSF should offer fare discounts and other incentives to encourage more walk-on and bicycle traffic. The Seattle / Bremerton and Seattle / Bainbridge routes currently have relatively high volumes of walk-on traffic – 64 and 47 percent, respectively. On the hand, the Fauntleroy / Vashon route has a relatively low percentage of walk-on passengers (33%).

- **Fauntleroy / Vashon:** Fauntleroy / Vashon winter riders show the highest overall levels of agreement with the proposal to offer discounts / incentives to walk-on and bicycle passengers. Eighty-eight percent (88%) of all winter riders on this route agree. Moreover, 71 percent “strongly agrees” – the highest percentage of passengers on any route. Support for discounts / incentives is nearly unanimous among Fauntleroy / Vashon walk-on riders – a total of 98 percent agrees with 91 percent “strongly agreeing.”
- **Seattle / Bainbridge:** Slightly more than four out of five (82%) Seattle / Bainbridge riders agree that WSF should continue to offer fare discounts and other incentives to walk-on / bicycle passengers. Three out of five (60%) “strongly agree.” Eighty-eight percent (88%) of Seattle / Bainbridge current walk-on passengers agree with this proposal; 68 percent “strongly agrees.”
- **Seattle / Bremerton:** A similar percentage (81%) of all Seattle / Bremerton riders agrees that WSF should offer discounts and incentives to walk-on / bicycle passengers. Similarly, slightly more than three out of five (62%) “strongly agree.” Among current walk-on passengers on this route, agreement is even higher – 86 percent agrees with 70 percent “strongly agreeing.”

Table 36: Provide Discounts / Other Incentives to Walk-On / Bicycle Passengers by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	79%	83%	81%	75%	76%	88%	74%	82%	69%	76%
Strongly Agree	56%	60%	62%	49%	50%	71%	48%	59%	46%	50%
Somewhat Agree	23%	23%	19%	26%	26%	17%	26%	23%	23%	26%
Mean	4.22	4.29	4.30	4.09	4.13	4.48	4.08	4.29	4.01	4.10
Question: To what extent do you agree or disagree that WSF should offer fare discounts and other incentives to walk-on and bicycle passengers?										
Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”										

Provide Dedicated Lanes to Safely Drop Off Passengers at Terminals

While winter riders on all routes generally agree that WSF should provide dedicated lanes to drop off passengers at terminals, winter riders on four routes – **Seattle / Bainbridge, Seattle / Bremerton, Fauntleroy / Vashon, and Mukilteo / Clinton** – show higher than average levels of agreement, suggesting that these terminals could be more of a problem than other. As noted on the previous page, Seattle / Bremerton and Seattle / Bainbridge currently have high volumes of walk-on passengers– 64 and 47 percent, respectively. The Mukilteo / Clinton route has a relatively low percentage of walk-on passengers (20%).

- **Seattle / Bremerton:** Seventy-eight percent (78%) of winter riders on the Seattle / Bremerton route agree that WSF should provide dedicated drop-off lanes for passengers at terminals. Nearly half (48%) “strongly agrees.” Sixteen percent (16%) of Seattle / Bremerton walk-on passengers get dropped off at the Bremerton terminal and 12 percent gets picked up at the Seattle terminal.
- **Seattle / Bainbridge:** Seventy-six percent (76%) of winter riders on the Seattle / Bainbridge route agree that WSF should provide dedicated drop-off lanes for passengers at terminals. The overall strength of their agreement, however, is somewhat lower than among Seattle / Bremerton winter riders; only 41 percent of Seattle / Bainbridge winter riders “strongly agree” with this proposal. Thirteen percent (13%) of Seattle / Bainbridge walk-on passengers get dropped off at the Bainbridge terminal; 10 percent gets picked up on the other side.
- **Fauntleroy / Vashon:** The same percentage (76%) of Fauntleroy / Vashon winter riders also agree that there should be dedicated lanes for passenger pick-up and drop-off.
- **Mukilteo / Clinton:** While a smaller percentage (75%) of winter riders on the Mukilteo / Clinton route agrees with providing dedicated drop-off lanes at terminals, the strength of their agreement is relatively high. Forty-four percent (44%) of Mukilteo / Clinton riders “strongly agree” with this proposal. This may reflect the layout of the Mukilteo terminal and the lack of an area near the loading area to safely drop off passengers. Only 10 percent of Mukilteo / Clinton walk-on passengers get dropped off at the Clinton ferry; a similar percentage (16%) gets picked up in Mukilteo / Clinton.

Table 37: Provide Dedicated Lanes to Safely Drop Off Passengers at Terminals by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	74%	76%	78%	73%	75%	76%	67%	68%	65%	61%
Strongly Agree	40%	41%	48%	37%	44%	41%	35%	34%	20%	29%
Somewhat Agree	34%	35%	30%	36%	31%	35%	32%	34%	45%	32%
Mean	4.02	4.06	4.15	4.01	4.04	4.09	3.86	3.89	3.67	3.74

Question: To what extent do you agree or disagree that WSF should provide dedicated lanes to safely drop off passengers at terminals?

Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”

Improve Sidewalk Connections

Winter riders on the **Seattle / Bainbridge** and, to a lesser extent, **Seattle / Bremerton** routes are the **most likely** to agree WSF should improve sidewalk connections to the terminals.

- Two out of three (66%) Seattle / Bainbridge riders agree with this proposal; 35 percent “strongly agrees.” Somewhat fewer (60%) Seattle / Bremerton riders agree with this proposal; 32 percent “strongly agrees.” Note that 15 percent of Seattle / Bainbridge and 17 percent of Seattle / Bremerton walk-on passengers walk from their homes.

Winter riders on the **Fauntleroy / Vashon** and **Point Defiance / Tahlequah** routes are the **least likely** to agree with this proposal. However, this does not imply that they disagree. Instead a significant number of riders on these routes say they neither agree nor disagree with the proposal.

- Only 45 percent of Fauntleroy / Vashon riders agree that WSF should improve sidewalk connections to the terminals; 44 percent are neutral in their opinions. This is true regardless of boarding mode.
- Similarly, 41 percent of Point Defiance / Tahlequah riders agree that WSF should improve sidewalk connections; 43 percent is neutral. However, this is largely driven by vehicle drivers. Looking only at walk-on passengers on this route, 62 percent agrees that sidewalk connections should be improved. However, very few (15%) Point Defiance / Tahlequah riders are walk-on passengers.

Table 38: Improve Sidewalk Connections to Terminals by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	57%	66%	60%	51%	56%	45%	54%	41%	42%	57%
Strongly Agree	29%	35%	32%	24%	27%	23%	29%	19%	16%	29%
Somewhat Agree	28%	31%	28%	27%	29%	22%	25%	22%	26%	28%
Mean	3.70	3.87	3.80	3.61	3.67	3.52	3.69	3.40	3.40	3.69
Question: To what extent do you agree or disagree that WSF should provide / improve sidewalk connections to terminals?										
Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”										

Improve Bicycle Connections

Winter riders on the **Seattle / Bainbridge** route are the **most likely** to support this proposal. This most likely reflects the above-average number of bicyclists using this route (7%).

- Nearly two out of five (37%) Seattle / Bainbridge riders “strongly agree” that bicycle connections to the terminals should be improved; an additional 31 percent “somewhat agrees.” Among bicycle riders on this route, this figure jumps to 80 percent “strongly agrees.”

Winter riders on the San Juans also show a **higher than average** level of **agreement** with this proposal.

- Three out of five (61%) Anacortes / San Juans winter riders agree with this proposal. Among walk-on passengers on this route, only 26 percent of walk-on passengers “strongly agree” that bicycle connections should be improved; however, 53 percent “somewhat agrees.”

Table 39: Improve Bicycle Connections to Terminals by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	58%	68%	55%	57%	52%	51%	50%	51%	53%	61%
Strongly Agree	29%	37%	28%	25%	24%	28%	25%	21%	21%	29%
Somewhat Agree	29%	31%	27%	32%	28%	23%	25%	30%	32%	32%
Mean	3.70	3.91	3.69	3.66	3.56	3.60	3.62	3.48	3.57	3.73
Question: To what extent do you agree or disagree that WSF should provide / improve bicycle connections to terminals?										
Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”										

Provide Sheltered / Secure Bike Parking

Consistent with their support for improvements to bicycle connections, **Seattle / Bainbridge** riders are the most likely to agree with the proposal to provide sheltered / secure bike parking.

- Thirty-one percent (31%) of Seattle / Bainbridge riders “strongly agree” that there should be sheltered / secure bicycle parking; an additional 31 percent “somewhat agrees” for a total net agreement of 62 percent.
- Among those that bicycle to and/or from the ferry on this route, 51 percent “strongly agrees” that there should be sheltered / secure bike parking at the terminals and 29 percent “somewhat agrees”. Note that bicycle riders on this route are less supportive of this proposal than they are of improved bicycle connections; 74 percent “strongly agrees” there should be improved bicycle connections. This would suggest that those who currently bicycle typically ride onto the ferries and are less interested in being able to park their bikes at the terminals.

Table 40: Provide Sheltered / Secure Bike Parking by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	58%	62%	59%	57%	56%	60%	51%	53%	50%	54%
Strongly Agree	28%	31%	28%	26%	27%	32%	25%	26%	19%	23%
Somewhat Agree	30%	31%	31%	31%	29%	28%	26%	27%	31%	31%
Mean	3.71	3.78	3.73	3.69	3.68	3.79	3.58	3.71	3.47	3.57
Question: To what extent do you agree or disagree that WSF should provide sheltered / secure bike parking?										
Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”										

Covered / Separated Pedestrian Walkways

Perhaps reflecting the significant number of walk-on passengers on these routes, winter riders on the Seattle / Bremerton and, to a lesser extent, Seattle / Bainbridge are the most likely to agree with this proposed improvement. Sixty-four percent (64%) of Seattle / Bremerton and 47 percent of Seattle / Bainbridge passengers walk onto the ferry. It should be noted that both these routes currently have covered, separated pedestrian walkways at all docks.

- Thirty-five percent (35%) of Seattle / Bremerton riders “strongly agree” that there should be covered, separated pedestrian walkways connecting directly to the vessel passenger deck; an additional 29 percent “somewhat agrees.” Among walk-on passengers on this route, net agreement jumps to 69 percent, with 41 percent “strongly agreeing.”
- Thirty-one percent (31%) of Seattle / Bainbridge riders “strongly agree” that there should be covered, separated pedestrian walkways connecting directly to the vessel passenger deck; an additional 31 percent “somewhat agrees.” There are no differences in agreement between those that walk-on and other riders on this route.

Winter riders on the Fauntleroy / Vashon and Point Defiance / Tahlequah are the least likely to agree with this improvement. Moreover, a significant number disagrees.

- Only 45 percent of winter riders on the Fauntleroy / Vashon and 39 percent of winter riders on the Point Defiance / Tahlequah routes agree with providing covered, separated pedestrian walkways. Twenty percent (20%) of winter riders on Fauntleroy / Vashon and 22 percent of those on Point Defiance / Tahlequah disagree with this improvement.

Table 41: Covered / Separated Pedestrian Walkways by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	58%	62%	64%	60%	58%	45%	56%	39%	52%	55%
Strongly Agree	29%	31%	35%	27%	30%	26%	29%	10%	18%	27%
Somewhat Agree	29%	31%	29%	33%	28%	19%	27%	29%	34%	28%
Net Disagree	12%	11%	9%	10%	13%	20%	12%	22%	16%	15%
Mean	3.68	3.74	3.86	3.74	3.70	3.42	3.66	3.16	3.46	3.60
Question: To what extent do you agree or disagree that WSF should provide covered / separated pedestrian walkways?										
Mean: Based on 5-point scale where “1” means “strongly disagrees” and “5” means “strongly agrees;” the mid-point is “3.”										

Car Sharing Program

Interest in a car sharing / flex car rental program is significant among **Anacortes / San Juans** and, to a lesser extent, **Fauntleroy / Vashon** riders.

- Interest in a car sharing program is significantly higher among the Anacortes / San Juans passengers – 69 percent supports this program; 37 percent strongly supports the idea.
- There is also above-average (63%) interest in this service among Fauntleroy / Vashon riders. Among Fauntleroy / Vashon walk-on passengers, interest increases to 71 percent.

Table 42: Car Sharing Program by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	57%	58%	52%	55%	55%	63%	52%	57%	48%	69%
Strongly Agree	27%	27%	24%	28%	25%	31%	28%	25%	14%	37%
Somewhat Agree	30%	31%	28%	28%	30%	32%	24%	32%	34%	32%
Mean	3.63	3.64	3.55	3.64	3.55	3.78	3.54	3.55	3.35	3.91

Question: To what extent do you agree or disagree that WSF should provide a car sharing program?

Mean: Based on 5-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees;" the mid-point is "3."

Reserve and Pay for Parking by Phone or Web

There is above average support for this strategy on two routes.

- Anacortes / San Juans: Nearly two out of three (65%) Anacortes / San Juan riders agree with this proposal. This may reflect the desire for this service on the Anacortes side.
- Mukilteo / Clinton: Nearly three out of five (58%) Mukilteo / Clinton riders agree with this proposal.

Riders on the Fauntleroy / Vashon route generally do not support this proposal – 33 percent disagrees.

Table 43: Reserve and Pay for Parking by Phone or Web by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	49%	45%	49%	51%	58%	32%	48%	41%	54%	65%
Strongly Agree	24%	20%	25%	24%	30%	15%	23%	21%	25%	36%
Somewhat Agree	25%	25%	24%	27%	28%	17%	25%	20%	29%	29%
Net Disagree	19%	21%	15%	15%	15%	33%	14%	23%	20%	9%
Mean	3.44	3.31	3.50	3.52	3.64	2.96	3.47	3.27	3.49	3.88
Question: To what extent do you agree or disagree that WSF should allow customers to reserve and pay for parking at terminals by phone or web? Mean: Based on 5-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees;" the mid-point is "3."										

Secure / Covered Parking with Walkways to Terminals

Support for this improvement varies significantly by route.

- Support is significantly higher on three routes: Seattle / Bremerton (55%), Edmonds / Kingston (52%), and Mukilteo / Clinton (52%).
- Support is lowest among Seattle / Bainbridge passengers – 30 percent disagrees that this improvement should be implemented.

Table 44: Secure and Covered Parking with Walkways to Terminal by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	47%	39%	56%	52%	52%	45%	45%	49%	46%	45%
Strongly Agree	23%	19%	29%	26%	26%	17%	24%	30%	13%	22%
Somewhat Agree	24%	20%	27%	26%	26%	28%	21%	19%	33%	23%
Net Disagree	22%	30%	13%	19%	19%	21%	19%	18%	21%	24%
Mean	3.37	3.13	3.63	3.51	3.48	3.31	3.42	3.49	3.26	3.28
Question: To what extent do you agree or disagree that WSF should provide secure and covered parking with walkways to terminals?										
Mean: Based on 5-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees;" the mid-point is "3."										

Bike Sharing Program

There are no significant or practical differences in attitudes toward a bike sharing program by route.

Table 45: Bike Sharing by Route

	Winter Riders (n=5,471)	SEA/ BAIN (n=2,060)	SEA/ BRE (n=758)	EDM/ KIN (n=996)	MUK/ CLI (n=646)	FAU/ VAS (n=251)	FAU/ SOU (n=268)	PTD/ TAH (n=93)	KEY/ PTT (n=128)	ANA/ SAN (n=271)
Net Agree	35%	36%	37%	33%	31%	36%	31%	29%	32%	39%
Strongly Agree	16%	17%	17%	14%	14%	19%	13%	16%	14%	17%
Somewhat Agree	19%	19%	20%	19%	17%	17%	18%	13%	18%	22%
Mean	3.22	3.24	3.28	3.20	3.17	3.31	3.16	3.12	3.10	3.26
Question: To what extent do you agree or disagree that WSF should offer a bike sharing program?										
Mean: Based on 5-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees;" the mid-point is "3."										

Time of Day / Week Travel Results: Operational Strategies to Improve Passenger Access

In general, there are relatively few significant differences in riders' attitudes toward strategies to improve passenger access among riders who travel at different times of the day or day of the week. The differences that do exist are listed below:

Peak Weekday Riders: Riders who travel during peak weekday periods are more likely than those traveling off-peak weekdays and/or on weekends to agree that WSF should:

- **Offer fare discounts and other incentives** to walk-on and bicycle passengers: While there are no significant differences in overall agreement with this strategy, peak weekday riders are more likely than off-peak weekday riders to “strongly agree” with this proposal – 57 percent compared with 55 percent, respectively. Notably, current peak weekday walk-on passengers “strongly agree” with this proposal (73%).
- **Improve sidewalk connections** to terminals: Again, there are no significant differences in weekday riders' overall agreement with this improvement. However, peak weekday riders are more likely than off-peak weekday riders to “strongly agree” with this proposal – 28 percent compared with 26 percent, respectively. This higher level of agreement is primarily driven by peak weekday walk-on passengers – 63 percent of whom agrees with this proposal; 33 percent of whom “strongly agrees.” Note that a greater percentage (46%) of peak weekday travelers walk on while more (54%) off-peak weekday riders drive onto the ferries.

Weekend Riders: Weekend riders are more positive toward several of the proposals than are their peak weekday and/or off-peak weekday counterparts. Specifically, weekend riders are more likely to agree that WSF should:

- **Improve Sidewalk Connections** to the terminals: Weekend passengers are more likely to agree with this proposal. Notably, they are more likely than both peak weekday and off-peak weekday drivers to “strongly agree” – 33 percent compared with 28 and 26 percent, respectively. Potentially reflecting the nature of their travel and their planned activities, one-third (33%) weekend walk-on passengers “strongly agree” with this proposal.
- **Offer a Car Sharing Program:** Nearly three out of five (59%) weekend riders support the idea of offering a car sharing program on the destination side. Notably, they are more likely than both peak and off-peak weekday riders to “strongly agree” with this program – 31 percent compared with 26 percent.
- **Offer a Bike Sharing Program:** Similarly, weekend riders are more likely to support a bike sharing program. Nearly two out of five (38%) weekend riders support a bike sharing program compared to 31 percent of peak weekday riders. There are no differences between boarding modes.

Off-Peak Weekday and Weekend Riders: Off-peak weekday and weekend riders are more likely than weekday riders to support the two proposed parking improvements.

- **Allow Riders to Reserve / Pay for Parking Online or by Phone:** Weekend and, to a somewhat lesser extent, off-peak weekday riders are more likely than peak weekday riders to agree with this proposal – 54 and 50 percent compared with 44 percent, respectively.
- **Provide Covered / Secure Parking with Covered Walkways to Terminals:** Weekend and, to a lesser extent, off-peak weekday riders are also more likely than peak weekday riders to support this proposal – 51 and 48 percent compared with 42 percent, respectively. Of note here is the relatively large percentage (25%) of peak weekday riders who disagree with this proposal.

Table 46: Attitudes toward Operational Strategies to Improve Passenger Access by Time of Day / Week Travel

		Offer Fare Discounts / Other Incentives	Dedicated Drop-Off Lanes	Improve Sidewalk Connections	Improve Bicycle Connections	Sheltered Bike Parking	Covered / Separated Walkways	Offer Car Sharing Programs	Reserve / Pay for Parking by Phone /Web	Secure / Covered Parking w/ Walkways	Offer Bike Sharing Program
% Net Agreement	Peak Weekday	79%	72%	56%	57%	56%	56%	56%	44%	42%	31%
	Off-Peak Weekday	78%	74%	55%	58%	58%	59%	56%	50%	48%	35%
	Anytime Weekend	81%	77%	60%	60%	60%	61%	59%	54%	51%	38%
% Strongly Agree	Peak Weekday	57%	39%	28%	28%	26%	30%	25%	21%	20%	13%
	Off-Peak Weekday	52%	39%	26%	26%	29%	29%	26%	24%	23%	16%
	Anytime Weekend	56%	42%	33%	33%	29%	29%	32%	28%	26%	18%
% Somewhat Agree	Peak Weekday	22%	33%	28%	29%	30%	27%	31%	23%	22%	18%
	Off-Peak Weekday	23%	34%	29%	32%	29%	30%	30%	26%	25%	19%
	Anytime Weekend	25%	35%	27%	27%	31%	32%	28%	26%	25%	20%
Mean	Peak Weekday	4.22	3.98	3.69	3.68	3.66	3.65	3.58	3.32	3.23	3.15
	Off-Peak Weekday	4.18	4.01	3.65	3.67	3.71	3.69	3.61	3.47	3.41	3.23
	Anytime Weekend	4.25	4.08	3.79	3.77	3.77	3.71	3.72	3.55	3.48	3.31

Question: WSF is considering strategies to improve bicycle and walk-on passenger access. For each item below, indicate the extent to which you agree or disagree WSF should implement this strategy to encourage more bicycle and walk-on access.

Mean is based on a five-point scale where "1" means "strongly disagrees" and "5" means "strongly agrees." The mid-point is "3."

Base: Vehicle Drivers – March On-Board Surveys (n = 2,987)

Vehicle Passengers – March On-Board Surveys (n = 1,297)

Walk-On Passengers – March On-Board Surveys (n = 1,187)

Other Significant Findings: Attitudes toward Operational Strategies to Improve Passenger Access by Attitudes toward How WSF should Invest its Improvements

As would be expected those that feel WSF should invest in moving people and, to a somewhat lesser extent, those that feel they should invest equally show significantly stronger support for nearly all strategies to improve passenger access than do those who feel the agency should invest in moving vehicles. This is consistent with the boarding mode analysis discussed earlier.

Those strategies that most strongly differentiate those that feel WSF should invest in moving people versus those that feel the agency should invest in moving vehicles include (in order of discrimination):

- Offer fare discounts and other incentives to walk-on and bicycle passengers;
- Provide or improve bicycle connections;
- Allow passengers to reserve and pay for parking by phone or web;
- Develop a bike sharing program at the terminals;
- Provide secure / covered parking with covered walkways to terminals;
- Provide / improve sidewalk connections to terminals; and
- Provide dedicated lanes to safely drop off and pick up passengers at terminals.

Looking only at vehicle drivers, the proposals that most clearly differentiate those that feel WSF should invest in moving people as opposed to moving vehicles include (listed in order of discrimination):

- Continue to offer fare discounts and other incentives to walk-on and bicycle passengers;
- Improve bicycle connections;
- Allow passengers to reserve and pay for parking by phone or online;
- Offer a car sharing program;
- Provide dedicated lanes to safely drop off and pick up passengers.

Table 47: Attitudes toward Operational Strategies to Improve Passenger Access by Attitudes toward How WSF should Invest its Improvements

	All Winter Riders (n = 5,471)	People Mover (n = 1,645)	Invest Equally (n = 2,583)	Vehicle Mover (n = 1,002)
Offer Fare Discounts / Other Incentives				
Net Agree	79%	92%	79%	65%
Net Disagree	8%	5%	7%	16%
Provide Dedicated Passenger Pick-Up / Drop-Off Lanes				
Net Agree	74%	78%	74%	67%
Net Disagree	8%	7%	7%	11%
Improve Sidewalk Connections				
Net Agree	57%	66%	58%	44%
Net Disagree	10%	8%	8%	16%
Improve Bicycle Connections				
Net Agree	58%	68%	60%	42%
Net Disagree	11%	8%	9%	20%
Provide Sheltered / Secure Bike Parking at Terminals				
Net Agree	58%	68%	59%	43%
Net Disagree	10%	8%	8%	19%
Provide Covered / Separated Pedestrian Walkways				
Net Agree	58%	64%	58%	51%
Net Disagree	12%	11%	11%	17%
Offer Car Sharing Program				
Net Agree	57%	66%	57%	47%
Net Disagree	14%	10%	12%	21%
Allow Riders to Reserve and Pay for Parking by Phone/Web				
Net Agree	49%	45%	52%	48%
Net Disagree	19%	20%	16%	21%
Provide Secure/Covered Parking w/ Walkways to Terminals				
Net Agree	47%	48%	48%	46%
Net Disagree	22%	24%	20%	25%
Offer Bike Sharing Program				
Net Agree	35%	45%	35%	21%
Net Disagree	18%	15%	15%	28%

Appendix

On-Board Survey Background / Objectives / Methodology / Relevant Questions

Background / Objectives

While Washington State Ferries (WSF) has routinely conducted Origin & Destination Surveys (1993, 1999, and 2006) as well as a Customer Survey on Amenities and Customer Satisfaction (2002), this research represents the first comprehensive survey of WSF customers – both their travel behaviors and attitudes. The key objectives for this on-board survey effort were in large part driven by the legislation that required this research and were further refined as follows:

- Develop and implement a quantitative research methodology that yields reliable and statistically valid baseline results. The legislation calls for an ongoing biennial survey effort. As such, the research needed to be designed with the following sub-objectives in mind:
 - The methodology must be replicable in future years.
 - The methodology must provide reliable data at an aggregate level and allow for reliable analysis among key customer segments, notably at the route level and by different types of passengers (boarding mode, trip purpose, frequency of travel, etc.).
- Provide a comprehensive demographic and travel behavior profile of WSF customers.
- Test customer attitudes toward possible changes in fare policies and/or operations.

Methodology

Sampling

The overall objective in designing the sample plan was to obtain a representative sample of all ferry customers on all routes operated by WSF. The most effective and efficient means to accomplish this objective is through the use of a cluster sample. Cluster sampling is a technique used when "natural" groupings are evident in a statistical population – in this case a ferry trip. In this technique, the total population (all ferry customers), is divided into these groups (or clusters) and a sample of the trips is selected randomly. The survey is then administered to all riders on each selected trip.

The sample was stratified by route and the number of trips selected for each route was set to achieve a final number of surveys that is roughly proportionate to ridership on that route. The sample was further stratified by time of day. Since the focus of the study is on peak travel behavior and because the majority of ferry customers travels during peak travel periods, stratification will result in a roughly proportionate sample of peak and off-peak travelers (relative to their actual percent of the population). Sampling is at a rate of 75 percent peak / 25 percent off-peak trips, as illustrated in the following table.

Table 48: Number of Sampled Trips Surveyed

Route	Total Number of Yoked Trips Sampled	# of Peak Weekday	# of Peak Weekend	# of Off-Peak (Weekday & Weekend)
March 2008				
Seattle / Bainbridge	18	10	3	5
Seattle / Bremerton	6	4	1	1
Edmonds / Kingston	16	10	3	3
Mukilteo / Clinton	15	9	3	3
Fauntleroy / Vashon / Southworth	13	8	1	4
Point Defiance / Tahlequah	4	2	1	1
Keystone / Port Townsend	3	2	1	0
Anacortes / San Juans	2	1	1	0
Total	77	46	14	17
July / August 2008				
Seattle / Bainbridge	18	10	3	5
Seattle / Bremerton	6	4	1	1
Edmonds / Kingston	16	10	3	3
Mukilteo / Clinton	15	9	3	3
Fauntleroy / Vashon / Southworth	13	8	1	4
Point Defiance / Tahlequah	4	2	1	1
Keystone / Port Townsend	4	2	2	0
Anacortes / San Juans	4	2	2	0
Anacortes / Sidney	1		1	
Total	81	47	17	17

Definitions for peak and off-peak travel times were provided by Washington State Ferries as follows:

1. **Morning Peak:** Eastbound trips that depart from the west side terminal between 5:30 and 9:00 a.m. Exception being Keystone / Port Townsend which are westbound trips departing from Keystone between 5:30 and 9:00 a.m.
2. **Afternoon Peak:** Westbound trips that depart from the east side terminal between 3:00 and 7:00 p.m. Again Keystone / Port Townsend are eastbound trips (departing from Port Townsend) during these times.
3. **Weekend Peak:** Westbound trips originating between 8:00 a.m. and Noon on Saturdays and eastbound trips originating between Noon and 8:00 p.m. on Sundays.
4. **Off-Peak:** All other weekday trips between 9:05 a.m. and 3:00 p.m. and from 7:05 p.m. to the last sailing.

Sampled trips were “yoked” or paired with a return trip departing approximately 30 to 60 minutes after the sampled trip was completed. This allowed the survey personnel to return to their origin. With this pairing, surveys were scheduled to be distributed on 316 one-way trips. In actuality, surveys were distributed on 325 trips. The table below provides the breakdown of the final sampled trips.

Table 49: Total Number of One-Way Trips Surveyed

Route	Winter 2008		Summer 2008	
	# of One-Way Trips (Planned)	# of One-Way Trips Actual	# of One-Way Trips (Planned)	# of One-Way Trips Actual
Seattle / Bainbridge	36	35	36	36
Seattle / Bremerton	12	10	12	10
Edmonds / Kingston	32	37	32	45
Mukilteo / Clinton	30	36	30	30
Fauntleroy / Vashon / Southworth	26	26	26	34
Point Defiance / Tahlequah	8	10	8	8
Keystone / Port Townsend	6	6	8	8
Anacortes / San Juans	4	4	8	8
Anacortes / Sidney	No winter service		2	2
Total	154	164	162	181

Data Collection and Interviewing Outcomes

Data collection occurred over a four week period during each survey wave. Each route or route group were surveyed over the course of a one-way week period. Trained survey personnel, accompanied by a supervisor, distributed surveys in advance of and during the scheduled trip. This ensured distribution only to passengers on the sampled trip. Survey personnel continued to distribute and pick-up surveys on both the passenger and vehicle decks throughout the trip. In addition, respondents were given the option to return the survey by mail (postage pre-paid) or on-line. In total, more than 63,000 passengers were approached and more than 13,000 surveys returned. Returns by route are shown in the table below.

Table 50: Number of Completed Surveys – Overall and by Route

Route	Total	Winter 2008	Summer 2008
Seattle / Bainbridge	4,600	2,060	2,540
Seattle / Bremerton	1,567	758	809
Edmonds / Kingston	2,413	996	1,417
Mukilteo / Clinton	1,789	646	1,143
Fauntleroy / Vashon	503	251	252
Fauntleroy / Southworth	547	268	279
Point Defiance / Tahlequah	147	93	54
Keystone / Port Townsend	432	128	304
Anacortes / San Juans	923	271	652
Anacortes / Sidney	209	No winter service	209
Total	13,130	5,471	7,659

Questionnaire

The questionnaire was developed with input from members of the WSTC, WSF planning staff, the Ferry Advisory Executive Council, and a volunteer consultant advising WSTC on the survey process. The questionnaire also included a request for passengers to complete the additional pricing and strategy research. This research was conducted on-line. Just over 4,000 or 37 percent of those completing the on-board survey agreed to participate in this additional research and provided contact information.

Weighting

The data was weighted based on the sampling to ensure that the results of the survey represented the actual number of boardings during the sampled travel periods within each route. Data is weighted by boarding mode for the sampled trip and time boarded within route. Ridership data for weighting was provided by WSF for each survey way to correspond to the exact week during which a specific route was surveyed. The number of passengers surveyed on each route by key strata and the final weighted cell sizes are shown in the table below.

Table 51: Sample Sizes – Weighted and Unweighted

Route	Final Sample Size	% of Sample	Weighted Sample Size	% of Sample	Expanded Sample Size	% of Weekly Trips
Winter 2008						
Seattle / Bainbridge	2,060	38%	1,511	28%	113,582	28%
Seattle / Bremerton	758	14%	612	11%	46,043	11%
Edmonds / Kingston	996	18%	1,046	19%	78,663	19%
Mukilteo / Clinton	646	12%	973	18%	73,128	18%
Fauntleroy / Vashon	251	5%	495	9%	37,232	9%
Fauntleroy / Southworth	268	5%	207	4%	15,582	4%
Point Defiance / Tahlequah	93	2%	152	3%	11,448	3%
Keystone / Port Townsend	128	2%	129	2%	9,664	2%
Anacortes / San Juans	271	5%	346	6%	26,036	6%
Total	5,471		5,471		411,377	
Summer 2008						
Seattle / Bainbridge	2,540	33%	2,029	26%	149,428	26%
Seattle / Bremerton	809	11%	859	11%	63,244	11%
Edmonds / Kingston	1,417	19%	1,335	17%	98,335	17%
Mukilteo / Clinton	1,143	15%	1,247	16%	91,838	16%
Fauntleroy / Vashon	252	3%	617	8%	45,439	8%
Fauntleroy / Southworth	279	4%	301	4%	22,148	4%
Point Defiance / Tahlequah	54	1%	200	3%	14,726	3%
Keystone / Port Townsend	304	4%	209	3%	15,383	3%
Anacortes / San Juans	652	9%	737	10%	54,294	10%
Anacortes / Sidney	209	3%	126	2%	9,265	2%
Total	7,659		7,659		564,099	

On-Board Survey Questionnaire – Relevant Questions

Color Codes:

Q# Winter and Summer Question

Q# Winter Question

Q# Summer Question

Access to / Willingness to Use Transit

Q17A) To the best of your knowledge, Do You Have Public Transportation Available . . . ?

	Yes	No	Don't Know
From where you Live To The Ferry terminal	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
From a Park-And-Ride Lot near where you live To The Ferry	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
From where you Get Off the ferry to where you typically Need To Go	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

Q18B) Thinking about different ways of **Getting to the Ferry**, How **Willing** would you be to:

	Not At All Willing		Neither		Very Willing
Form / Join a Vanpool	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Form / Join a Carpool	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Use Public Transportation and walk-on	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Bicycle	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Ride a Motorcycle / Scooter	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Attitudes toward Strategies to Improve Transit Connections

Q18) Working with other agencies, WSF is considering some alternatives to **Improve** how well the system **Moves** both **People** and **Vehicles**. To what extent do you **Agree** or **Disagree** WSF should **Do** each of the following to **Encourage More Use Of Transit and Car / Vanpools**?

	Strongly Disagree		Neither		Strongly Agree
Provide More Park-And-Ride Lots with good transit connections to terminals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Provide access for buses to Drop Off / Pickup Passengers Closer to the ferry terminals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Create Dedicated Bus Lanes for buses to access terminals and drop off passengers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Coordinate Transit And Ferry Schedules to leave adequate time for passenger transfers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Provide New Transit Routes to serve the ferry with non or limited stop service to major destinations	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Provide Dedicated Vanpool / Carpool Staging Areas / Lanes at terminals with Priority Boarding	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Allow Smaller Vanpools (e.g., 7 instead of 11 persons)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Give Unregistered Carpools the Same Benefits (e.g., priority loading) as Formal Registered Carpools	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Attitudes toward Strategies to Improve Passenger Access

Q16) WSF is considering strategies to **Improve Bicycle and Walk-On Passenger Access**. For each item below, indicate the extent to which you **Agree** or **Disagree** WSF should **Implement** this strategy to **Encourage More Bicycle and Walk-On** traffic.

	Strongly Disagree		Neither		Strongly Agree
Provide or improve Sidewalk Connections to terminals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide or improve Bicycle Connections (bike lanes, paths, wide shoulders) access to the terminal	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide Covered, Separated Pedestrian Walkways connecting directly to the vessel passenger deck	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide Secure And Covered Parking with covered walkways to / from terminals / boats	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide Dedicated Lanes to safely drop off passengers at the terminals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Offer Fare Discounts or other incentives to walk-on and bike-on passengers	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Allow passengers to Reserve and Pay for Parking at the terminal on-line or by phone	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide Sheltered / Secure Bike Parking at terminals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Develop a Bike Sharing Program at terminals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Provide Flex Car Rentals on the destination side to drive to where they need to go	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Study Background / Objectives / Methodology

Overview

Opinion Research Corporation (ORC) conducted an online survey with Washington State Ferry winter customers. The purpose of this study was to measure sensitivity to an across-the-board fare increase as well as changes in behavior that could result from different pricing strategies. This study uses choice-based conjoint (CBC). Choice-based conjoint is both a data collection and analytical method that simulates the actual consumer decision process when presented with different alternatives. This research looks at the trade-offs that ferry riders are likely to make when deciding what mode to use and when to travel under different situations.

The structure of the choice-based conjoint exercise was developed collaboratively between ORC, the Transportation Commission, Washington State Ferries and other consultants working for those entities. It was designed to follow the approach commonly used for transportation choice modeling, also known as a stated preference (SP) survey. In this approach, respondents are asked to describe their most recent trip using the mode of interest (in this case driving on the ferry). They are then presented with realistic alternatives for making that trip and asked to select the one that they would most likely choose under those circumstances. The use of a specific past trip as a point of reference is important in these surveys because travel decisions are commonly quite context specific – travelers have specific needs and constraints that vary considerably from day-to-day and from trip to trip and an average or typical trip does not reflect those real needs and constraints

Transportation research suggests that the trade-off between the amount of time it takes to make the trip and the cost of the trip are the two primary drivers of the mode choice decision. For example, people may be willing to pay more if the trip takes less time. Other factors may also affect mode choice and/or their willingness to pay more for a trip. For example, people making trips where they have little / or no discretion as to the time they have to arrive at their destination – e.g., a work trip, to make a scheduled flight at an airport, to arrive on time for a medical appointment – may be less sensitive to a fare increase than those whose trip purpose is seen as more flexible.

Respondents were asked to describe two of their most recent trips – one which they indicated was a non-discretionary trip – that is, a trip that riders feel they have little or no control over when they take it – and one which they indicated was non-discretionary – that is, a trip that riders have some degree of control over when they take it. Moreover, they were asked to describe those trips for which they drove onto the ferry during peak travel times. If they didn't drive on during peak time, they were asked to describe their most recent discretionary and/or non-discretionary trip in a vehicle during off-peak travel periods. Respondents were asked to consider a series of different trips representing the amount of time they would have to arrive in advance in order to drive onto the boat for their desired sailing time (represented by the departure time given for their current trip), the fare for the trip, and options for driving on an earlier or later ferry than their desired sailing time.

They were then asked to choose among five options for taking the trip under these different conditions:

1. Drive-on the sailing chosen for the most recent trip,
2. Drive-on an earlier sailing,
3. Drive-on a later sailing,
4. Walk-on the sailing chosen for the most recent trip, or
5. Make the trip some other way or not at all.

Following is an example of how the question appeared on the screen:

Imagine that WSF came up with a new pricing schedule. Thinking about your recent **NON-discretionary** trip ([Purpose from Screen 22]), if these were your only options, which would you choose?

<p>I would Walk on</p> <p>the</p> <p>Current ferry that departs at 4:00pm</p> <p>where I need to be at the terminal</p> <p>5 min before departure</p> <p>and where the one-way fare is \$1.60</p> <p><input type="radio"/></p>	<p>I would Drive on</p> <p>the</p> <p>Current ferry that departs at 4:00pm</p> <p>where I need to be at the terminal</p> <p>60 min before departure</p> <p>and where the one-way fare is \$14.55</p> <p><input type="radio"/></p>	<p>I would Drive on</p> <p>the</p> <p>earlier ferry that departs at 2:30pm</p> <p>where I need to be at the terminal</p> <p>5 min before departure</p> <p>and where the one-way fare is \$16.65</p> <p><input checked="" type="radio"/></p>	<p>I would Drive on</p> <p>the</p> <p>later ferry that departs at 4:45pm</p> <p>where I need to be at the terminal</p> <p>5 min before departure</p> <p>and where the one-way fare is \$14.55</p> <p><input type="radio"/></p>	<p>NONE:</p> <p>I would</p> <p>NOT make this NON-discretionary trip</p> <p>Given these drive-on and walk-on options/fares , I would just not use the ferries and find some other way to accomplish my trip purpose (either on-island or combined with another trip or not at all such as changing jobs)</p> <p><input type="radio"/></p>
---	--	--	---	---

Choose by clicking one of the buttons above.

Methodology

The sample was drawn from the Winter 2008 Onboard customers that agreed to be re-contacted – a total of 2,026 respondents provided either email or telephone contact information. Those that had a phone number, but didn't provide an email address were called to collect an email address if the respondent had one available. A total of 126 respondents were either unable to be contacted or didn't have an email address, leaving 1,900 working records for this study.

The following steps outline the process for surveying customers on this list:

1. Pre-notification emails were sent to the entire list of 1,900 on June 9, 2008. 300 undeliverable email addresses were followed-up and all but 106 respondents re-contacted and corrected, leaving 1,794 usable records.
2. Pretest: A random sample of 60 customers was drawn – 2 records were being unusable (e.g. husband/wife with same email of which we only used one of them and the other was an undeliverable email address). The pretest data collection was conducted June 11 – 16, 2008 with three reminders sent several days throughout this period to respondents who had not yet completed at each point in time. For the pretest we achieved 26 completes out of 58 customers – a 45 percent response.
3. Data Collection: All respondents were sent an e-mail with a link to the survey on June 27, 2008. To increase the potential overall and route level sample size, the programming was changed on July 2, 2008 to also capture vehicle drivers who only drive on during off-peak travel periods.
4. Three reminder emails were sent to those who did not complete the survey, followed by several telephone reminders.

Online respondents were asked a mix of quantitative and qualitative questions. Several series of questions were asked to gauge customers' travel habits including the route(s) used most often, number of trips by trip purpose, mode of transportation, and discretionary vs. non-discretionary trips. Customers were also asked about their most recent discretionary and/or non-discretionary trips including scheduled departure time, desired departure time if it were available, trip purpose, and direction / time slot. There were two conjoint series – one set for discretionary trips and one set for non-discretionary trips – to determine elasticity of fare pricing relating to peak travel times. Respondents completed conjoint series for each of the types of trips they described.

At the conclusion of the study on July 18, 2008, a total of 987 of the 1,794 customers had completed the survey – 688 completed at least one of the conjoint sections (267 discretionary only, 271 non-discretionary only, 150 both). Therefore, 55 percent of the total panel completed some or all of the survey. 113 customers clicked on the link but did not finish the survey, 43 refused participation, and 638 had not started the survey.

The following table provides details on the characteristics of panel members and those who ultimately completed the Price Sensitivity Study as compared to the respondents to the winter on-board survey overall and to respondents in the winter on-board survey who drove onto the ferry at least half of the time.

With one exception, riders who completed the winter on-board survey and agreed to participate in the additional research generally match the demographic characteristics of all winter riders.

- Specifically, those who agreed to participate in the additional research are more likely to be men (55%) than women (45%). Winter riders are more evenly split – 49 percent men and 51 percent women.

This additional research specifically targeted respondents who drive onto the ferry at least some of the time. Therefore, we also compared the characteristics of the panel members to winter riders who indicated they drive onto the ferry at least half of the time.

- Again, panel members are more likely than winter drivers to be men than women.
- In addition, panel members are more likely than the winter survey drivers to be employed full-time – 65 percent compared to 58 percent, respectively.

Those who completed the conjoint exercise are also somewhat different from riders generally and all panel members. Notably, respondents to the price sensitivity are:

- Even more likely than panel members to be men (61%) than women (39%).
- More affluent than riders generally and all panel members.

This is deemed not to be a problem for this research as this segment of riders is often the most difficult to get to change behaviors.

Table 52: Comparison of Respondent Demographic Characteristics

	All Winter On-Board Survey Respondents (n=5,471)	Winter Respondents Who Drive On at Least 50% of Time (n=2,815)	Winter Respondents Agreeing to Participate in Research (n=2,026)	Pricing Shift Conjoint Exercises Respondents (n=688)
Gender				
Male	49%	49%	55%	61%
Female	51%	51%	45%	39%
Age				
16 – 17	1%	1%	1%	<1%
18 – 24	4%	3%	3%	2%
25 – 34	10%	9%	9%	7%
35 – 44	16%	15%	17%	20%
45 – 54	26%	25%	26%	33%
55 – 64	28%	29%	29%	30%
65 +	15%	19%	14%	9%
Median	52.2	54.1	52.3	52.0
Employment				
Full-Time	63%	58%	65%	81%
Part-Time / Student	15%	14%	14%	7%
Self-Employed	1%	2%	1%	2%
Retired	16%	20%	15%	6%
Other	5%	6%	5%	3%
Income				
< \$15,000	3%	2%	3%	1%
\$15,000 - \$35,000	9%	9%	9%	5%
\$35,000 - \$50,000	11%	13%	11%	10%
\$50,000 - \$75,000	23%	24%	23%	22%
\$75,000 - \$100,000	19%	19%	18%	20%
\$100,000 - \$150,000	21%	20%	22%	24%
\$150,000 Plus	14%	15%	15%	19%
Median	\$80,663	\$79,115	\$81,723	\$90,442

Questionnaire

Screen 4

To get started, we need to ask you some general questions on your ridership. Some questions may seem similar to the on-board survey. However, we need your responses here as they will be used in subsequent sections of this survey. The first question is:

Which **WSF route do you ride most often?**

- ☐ Seattle / Bainbridge
- ☐ Seattle / Bremerton
- ☐ Fauntleroy / Vashon
- ☐ Fauntleroy / Southworth
- ☐ Vashon / Southworth
- ☐ Point Defiance / Tahlequah
- ☐ Edmonds / Kingston
- ☐ Mukilteo / Clinton
- ☐ Port Townsend / Keystone
- ☐ Anacortes / San Juans

Please select one and press NEXT.

Screen 4A

When boarding in Anacortes, which island / destination are you traveling to most often?

- ☐ Friday Harbor
- ☐ Shaw Island
- ☐ Orcas Island
- ☐ Lopez Island

Screen 5

People take trips for all types of purposes on the Washington State Ferries. Some trips are discretionary and some are not. Please indicate which types of trip purposes you have taken on a WSF and if the trip generally fell into the non-discretionary or discretionary category by clicking the buttons below.

Note: A **non-discretionary** trip is one that you have **little or no control** over when you must take it.

A **discretionary trip** is one that you have **some degree** of control over when you take it.

Please select the trip purposes you do on WSF and whether you feel they generally are the Non-discretionary or Discretionary below.

	Non-Discretionary (I have little or no control over when I go)	Discretionary (I have some or more control over when I go)
Commuting to / from Work / School	<input checked="" type="radio"/>	<input type="radio"/>
Work Related Activity / Business	<input type="radio"/>	<input type="radio"/>
Personal Business / Activity	<input type="radio"/>	<input type="radio"/>
Medical Appointments	<input type="radio"/>	<input type="radio"/>
Everyday Shopping	<input type="radio"/>	<input type="radio"/>
Major Shopping	<input type="radio"/>	<input type="radio"/>
Tourism / Recreation	<input type="radio"/>	<input type="radio"/>
Travel to / from Special Events	<input type="radio"/>	<input type="radio"/>
Travel to / from to See Family / Friends	<input type="radio"/>	<input type="radio"/>
Getting to / from Airport for Flight	<input type="radio"/>	<input type="radio"/>

Please select a category for each item in the list and press NEXT.

Screen 6

During a typical month, approximately how many **One-Way** trips do you take on **any / all Washington State Ferry routes** using each of the following modes of transportation to get on the ferry?

Remember to count a round trip as 2 one-way trips when you make your estimate.

	Number of One-Way Trips per month
Drive vehicle on -- As a driver	<input type="text"/>
Drive on -- As a passenger	<input type="text"/>
Walk-on (dropped off or bus/van or parked, etc & walked)	<input type="text"/>
Motorcycle / Scooter	<input type="text"/>
Bicycle -- Ride bike onto the ferry	<input type="text"/>
Vanpool -- Ride vanpool onto the ferry	<input type="text"/>
Some Other Mode [Please describe] <input type="text"/>	<input type="text"/>
Total One-Way Trips per Month	<input type="text"/>

Please enter the number of trips in each box and press NEXT. If you do not use a mode at all, enter "0" in the box.

Screen 7

To confirm, you said you take [**Screen 6 Total**] **one-way trips** in a typical month?

☐

Yes

☐

No

Please select one and press NEXT

Screen 8 (only asked if 0 for driver in screen 6)

To confirm you **DO NOT** take any one-way trips as the driver in a vehicle in a typical month.

- ☐ Yes
- ☐ No

Please select one and press NEXT

Screen 11

You said you make [**Screen 6 row 1, or row 2 if row 1=0**] one-way vehicle trips in a typical month as a driver. Approximately how many of those one-way trips were taken for each of these purposes?

- Commuting to / from **Work**
- Commuting to / from **School**
- Work-Related** Activity / Business
- Personal Business** / Activity
- Medical** Appointments
- Everyday** Shopping
- Major** Shopping
- Tourism / Recreation**
- Travel to / from **Special Events**
- Travel to / from to see **Family / Friends**
- Going to / from the **Airport**
- Other** general purpose not listed above
- Don't recall** purpose (Please take your best guess for as many as you can)
-

Total

Please allocate your trips and press NEXT to continue

Screen 12

For each time period shown below please tell us how many of your **[Screen 6 row 1, or row 2 if row 1=0]trips as a driver** in the last month were for a non-discretionary purpose, and how many were for a discretionary purpose.

You defined **non-discretionary** trips as: *[List non-discretionary items chosen in Screen 5]*

You defined **discretionary** trips as: *[List discretionary items chosen in Screen 5]*

	[Sum non-discretionary trips from Screen 11] Non-Discretionary Trips	[Sum discretionary trips from Screen 11] Discretionary Trips
Eastbound during Weekdays between [Route-specific time range]	<input type="text"/>	<input type="text"/>
Westbound during Weekdays between [Route-specific time range]	<input type="text"/>	<input type="text"/>
Westbound on Saturday between [Route-specific time range]	<input type="text"/>	<input type="text"/>
Eastbound on Sunday between [Route-specific time range]	<input type="text"/>	<input type="text"/>
Other times during the week	<input type="text"/>	<input type="text"/>

Please allocate your trips and press NEXT to continue

Screen 19 (If 0 non-discretionary trips, skip screens 19-22 and the non-discretionary conjoint; if only off-peak times, skip to screen 20a instead of screens 19 and 20)

Of your **non-discretionary peak time trips as a driver**, in which direction / time slot was your **most recent non-discretionary trip** taken?

Remember you said non-discretionary trips are: *[List non-discretionary items chosen in Screen 5]*

My **most recent non-discretionary trip** was:

- ☐ **Eastbound** during **Weekdays** between 5:00 AM to 9:00 AM
- ☐ **Westbound** during **Weekdays** between 3:00 PM to 7:00 PM
- ☐ **Westbound** on **Saturday** between 12:00 PM to 6:00 PM
- ☐ **Eastbound** on **Sunday** between 11:00 AM to 5:00 PM
- ☐ I did not travel during peak times in the last month

Please select one and press NEXT to continue

Screen 20 (Peak non-discretionary time - verify time is in correct period)

What was the approximate scheduled departure time for your **most recent non-discretionary trip**? If you don't recall the exact departure time, please give us your best guess.

Departure Time: : ☐ AM ☒ PM

Please put in the [hour]:[minute] and check either AM or PM for this trip's desired departure time then push NEXT to continue

Screen 20a (Off-peak non-discretionary times only)

What was the approximate scheduled departure time for your **most recent non-discretionary trip**? If you don't recall the exact departure time, please give us your best guess.

Departure Time: : ☐ AM ☒ PM

☐ Weekday ☒ Weekend

Direction: ☐ Eastbound ☒ Westbound

Please put in the [hour]:[minute], check either AM or PM for this trip's desired departure time, specify the direction for the trip, then push NEXT to continue

Screen 21

If you could have selected a more desirable departure time, what time would it have been? If your desired departure time is the same as the scheduled departure time just insert that time below:

Departure Time: : ☐ AM ☐ PM

Please put in the [hour]:[minute] and check either AM or PM for this trip's desired departure time then push NEXT to continue

Screen 22 (Show only those non-discretionary responses that they said were non-discretionary in Screen 5)

Which of the following best describes the purpose of our most recent non-discretionary trip?

Commuting to / from Work

Commuting to / from School

Work-Related Activity / Business

Personal Business / Activity

Medical Appointments

Everyday Shopping

Major Shopping

Tourism / Recreation

Travel to / from Special Events

Travel to / from to see Family / Friends

Going to / from the airport

Other general purpose not listed above

Don't recall purpose

Please check one of the categories and press NEXT to continue

Screen 14 (If 0 discretionary trips, skip screens 14-18 and the discretionary conjoint; if only off-peak times, skip to screen 20a instead of screens 19 and 20)

In which direction / time slot was your **most recent discretionary trip taken?**

My **most recent discretionary trip** was taken:

- ☐ **Eastbound** during **Weekdays** between 5:00 AM to 9:00 AM
- ☐ **Westbound** during **Weekdays** between 3:00 PM to 7:00 PM
- ☐ **Westbound** on **Saturday** between 12:00 PM to 6:00 PM
- ☐ **Eastbound** on **Sunday** between 11:00 AM to 5:00 PM
- ☐ I did not travel during peak times in the last month

Please select one and press NEXT to continue

Screen 16 (Peak discretionary time - verify time is in correct period)

What was the approximate scheduled departure time for your **most recent discretionary trip?** If you don't recall the exact departure time, please give us your best guess.

Departure Time: : ☐ AM ☐ PM

Please put in the [hour]:[minute] and check either AM or PM for this trip's desired departure time then push NEXT to continue

Screen 16a (Off-peak discretionary times only)

What was the approximate scheduled departure time for your **most recent discretionary trip?** If you don't recall the exact departure time, please give us your best guess.

Departure Time: : ☐ AM ☒ PM

☐ Weekday ☒ Weekend

Direction: ☐ Eastbound ☒ Westbound

Please put in the [hour]:[minute] and check either AM or PM for this trip's desired departure time then push NEXT to continue

Screen 17

If you could have selected a more desirable departure time, what time would it have been? If your desired departure time is the same as the scheduled departure time just insert that time below:

Departure Time: : ☐ AM ☐ PM

Please put in the [hour]:[minute] and check either AM or PM for this trip's desired departure time then push NEXT to continue

Screen 18 (Show only those discretionary responses that they said were discretionary in Screen 5)

Which of the following best describes the purpose of your most recent discretionary trip?

- Commuting to / from Work
- Commuting to / from School
- Work-Related Activity / Business
- Personal Business / Activity
- Medical Appointments
- Everyday Shopping
- Major Shopping
- Tourism / Recreation
- Travel to / from Special Events
- Travel to / from to see Family / Friends
- Going to / from the airport
- Other general purpose not listed above
- Don't recall purpose (Please take your best guess for as many as you can)

Please check one of the categories and press NEXT to continue

Screen 23

How do you typically pay your fare when you **drive on** the ferry?

- ☐ Regular Fare -- Vehicle & Driver
- ☐ Regular Fare -- Motorcycle & Driver
- ☐ Senior / Disabled Fare - Vehicle & Driver
- ☐ Senior / Disabled Fare -- Motorcycle & Driver
- ☐ Wave2Go Multi-Ride Card -- Vehicle & Driver
- ☐ Wave2Go Multi-Ride Card -- Motorcycle & Driver
- ☐ Something Else

Please select one and press NEXT

Screen 24

How do you typically pay your fare when you **walk on** the ferry?

- ☐ Single Ride Ticket Price
- ☐ Wave2Go Multi-Ride Ticket
- ☐ Monthly Ferry Pass
- ☐ Senior / Disabled Convenience Card
- ☐ Youth Fare
- ☐ Something Else (Please describe)
- ☐ I never walk on the ferry

Please select one and press NEXT

Screen 37

Please think about your most **recent NON-discretionary trip** (*[Purpose from Screen 22]*) and tell us what you would do if the WSF pricing schedule were to change as shown on the following screens. Please look carefully at each set of options/fares and choose appropriately.

Don't worry, this won't take too long!

Remember:

- 1) You defined a **non-discretionary trip purpose** as: *[List non-discretionary items chosen in Screen 5]*, and
- 2) Your **current price** for the *[Screen 4]* route any time of the day to **drive-on is [Average Drive-on Price for Route]** and **[Average Walk-on Price for Route] if you walk on.**

Non-Discretionary Conjoint Design

There are 3 attributes, “Mode”, “Shift” and “Price”.

Mode:

“Walk-on”	“Drive-on Peak”	“Drive-on Earlier Off-Peak”	“Drive-on Later Off-Peak”
-----------	-----------------	-----------------------------	---------------------------

Shift is 4 levels, conditionally displayed based on Mode:

Walk-on: 5, 5, 5, 5 -- Have to arrive this many minutes before boat sails (no shift for sailing time)	Drive-on Peak: 5, 30, 60, 90 -- Have to arrive this many minutes before boat sails (no shift for sailing time)	Drive-on Earlier Off-Peak: 45, 90, 135, 180 -- Amount of time earlier that off-peak sailing time is (and have to arrive 5 minutes before that time)	Drive-on Later Off-Peak: 45, 90, 135, 180 -- Amount of time later that off-peak sailing time is (and have to arrive 5 minutes before that time)
---	--	---	---

Price is a 7 level attribute, conditionally displayed based on Mode:

- Walk-on: 40% of current walk-on fare, 60%, 80%, 100%, 120%, 140%, 160%
- Drive-on Peak: 100% of current drive-on fare, 120%, 140%, 160%, 180%, 200%, 220%
- Drive-on Earlier Off-Peak: 40% of current drive-on fare, 60%, 80%, 100%, 120%, 140%, 160%
- Drive-on Later Off-Peak: 40% of current drive-on fare, 60%, 80%, 100%, 120%, 140%, 160%

The actual values for prices shown on the screen varied by route. Following are the price tables used in for this study:

Pricing Tables: Walk-on	Current Walk-on Fare	WP1	WP2	WP3	WP4	WP5	WP6	WP7
Route		40%	60%	80%	100%	120%	140%	160%
S / BA; S / BR; E / K	\$2.66	\$1.05	\$1.60	\$2.15	\$2.65	\$3.20	\$3.70	\$4.25
Muk / Clinton	\$1.57	\$0.65	\$0.95	\$1.25	\$1.55	\$1.90	\$2.20	\$2.50
F/V; V/S; PTD/T	\$1.71	\$0.70	\$1.00	\$1.35	\$1.70	\$2.05	\$2.40	\$2.75
F/S; PTT/KEY	\$2.06	\$0.85	\$1.25	\$1.65	\$2.05	\$2.50	\$2.90	\$3.30
San Juans - Lopez	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00
San Juans - Shaw/Orcas	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00
San Juans - Friday Harbor	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00

Pricing Tables: Peak Drive-on	Current Drive-on Fare	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Route		100%	120%	140%	160%	180%	200%	220%
S / BA; S / BR; E / K	\$10.40	\$10.40	\$12.45	\$14.55	\$16.65	\$18.70	\$20.80	\$22.85
Muk / Clinton	\$6.17	\$6.15	\$7.40	\$8.65	\$9.85	\$11.10	\$12.35	\$13.55
F/V; V/S; PTD/T	\$13.32	\$13.30	\$16.00	\$18.65	\$21.30	\$24.00	\$26.65	\$29.30
F/S; PTT/KEY	\$8.01	\$8.00	\$9.60	\$11.20	\$12.80	\$14.40	\$16.00	\$17.60
San Juans – Lopez	\$22.61	\$22.60	\$27.15	\$31.65	\$36.20	\$40.70	\$45.20	\$49.75
San Juans - Shaw/Orcas	\$27.13	\$27.15	\$32.55	\$38.00	\$43.40	\$48.85	\$54.25	\$59.70
San Juans - Friday Harbor	\$32.23	\$32.25	\$38.65	\$45.10	\$51.55	\$58.00	\$64.45	\$70.90

Pricing Tables: Off-Peak Drive-on	Current Drive-on Fare	OP1	OP2	OP3	OP4	OP5	OP6	OP7
Route		40%	60%	80%	100%	120%	140%	160%
S / BA; S / BR; E / K	\$10.40	\$4.15	\$6.25	\$8.30	\$10.40	\$12.45	\$14.55	\$16.65
Muk / Clinton	\$6.17	\$2.45	\$3.70	\$4.95	\$6.15	\$7.40	\$8.65	\$9.85
F/V; V/S; PTD/T	\$13.32	\$5.35	\$8.00	\$10.65	\$13.30	\$16.00	\$18.65	\$21.30
F/S; PTT/KEY	\$8.01	\$3.20	\$4.80	\$6.40	\$8.00	\$9.60	\$11.20	\$12.80
San Juans - Lopez	\$22.61	\$9.05	\$13.55	\$18.10	\$22.60	\$27.15	\$31.65	\$36.20
San Juans - Shaw/Orcas	\$27.13	\$10.85	\$16.30	\$21.70	\$27.15	\$32.55	\$38.00	\$43.40
San Juans - Friday Harbor	\$32.23	\$12.90	\$19.35	\$25.80	\$32.25	\$38.65	\$45.10	\$51.55

There were 6 random choice tasks and no fixed tasks for the non-discretionary conjoint section. An example screenshot is on the next page.
Screen 38-43 Non-Discretionary Conjoint Screens (Sample below) -- Skip if no non-discretionary drive-on trips in past month

Imagine that WSF came up with a new pricing schedule. Thinking about your recent **NON-discretionary** trip ([Purpose from Screen 22]), if these were your only options, which would you choose?

I would Walk on	I would Drive on	I would Drive on	I would Drive on	NONE:
the	the	the	the	I would
Current ferry that departs at	Current ferry that departs at	earlier ferry that departs at	later ferry that departs at	NOT make this NON-discretionary trip
4:00pm	4:00pm	2:30pm	4:45pm	Given these drive-on and walk-on options/fares , I would just not use the ferries and find some other way to accomplish my trip purpose (either on-island or combined with another trip or not at all such as changing jobs)
where I need to be at the terminal	where I need to be at the terminal	where I need to be at the terminal	where I need to be at the terminal	
5 min before departure	60 min before departure	5 min before departure	5 min before departure	
and where the one-way fare is \$1.60	and where the one-way fare is \$14.55	and where the one-way fare is \$16.65	and where the one-way fare is \$14.55	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Choose by clicking one of the buttons above.

Note that we are showing you several screens of questions like this. They may look very similar, but they are all different in some way. Please look carefully at the options and choose appropriately.

Next

Screen 25

The next set of questions will be about your discretionary travel.

Please think about your **most recent discretionary trip** ([Purpose from Screen 18]) and tell us what you would do if the WSF pricing schedule were to change as shown on the following screens. Please look carefully at each set of *options/fares and choose appropriately.*

Remember:

1) You defined a **discretionary trip purpose** as: [List non-discretionary items chosen in Screen 5]

2) Your **current price** for the [Screen 4] route any time of the day to **drive-on is [Average Drive-on Price for Route]** and **[Average Walk-on Price for Route] if you walk on.**

Press *NEXT* to continue

Discretionary Conjoint Design

There are 3 attributes, “Mode”, “Shift” and “Price”.

Mode:

“Walk-on”	“Drive-on Peak”	“Drive-on Earlier Off-Peak”	“Drive-on Later Off-Peak”
-----------	-----------------	-----------------------------	---------------------------

Shift is 4 levels, conditionally displayed based on Mode:

Walk-on: 5, 5, 5, 5 -- Have to arrive this many minutes before boat sails (no shift for sailing time)	Drive-on Peak: 5, 30, 60, 90 -- Have to arrive this many minutes before boat sails (no shift for sailing time)	Drive-on Earlier Off-Peak: 45, 90, 135, 180 -- Amount of time earlier that off-peak sailing time is (and have to arrive 5 minutes before that time)	Drive-on Later Off-Peak: 45, 90, 135, 180 -- Amount of time later that off-peak sailing time is (and have to arrive 5 minutes before that time)
---	--	---	---

Price is a 7 level attribute, conditionally displayed based on Mode:

- Walk-on: 40% of current walk-on fare, 60%, 80%, 100%, 120%, 140%, 160%
- Drive-on Peak: 100% of current drive-on fare, 120%, 140%, 160%, 180%, 200%, 220%
- Drive-on Earlier Off-Peak: 40% of current drive-on fare, 60%, 80%, 100%, 120%, 140%, 160%*
- Drive-on Later Off-Peak: 40% of current drive-on fare, 60%, 80%, 100%, 120%, 140%, 160%

* Note: A typo in the programming implementation displayed Drive-on Off-Peak Early Price 1 (60%) instead of Off-Peak Price 7 (160%)

The actual values for prices shown on the screen varied by route. Below are the price tables used in for this study:

Pricing Tables: Walk-on	Current Walk-on Fare	WP1	WP2	WP3	WP4	WP5	WP6	WP7
Route		40%	60%	80%	100%	120%	140%	160%
S / BA; S / BR; E / K	\$2.66	\$1.05	\$1.60	\$2.15	\$2.65	\$3.20	\$3.70	\$4.25
Muk / Clinton	\$1.57	\$0.65	\$0.95	\$1.25	\$1.55	\$1.90	\$2.20	\$2.50
F/V; V/S; PTD/T	\$1.71	\$0.70	\$1.00	\$1.35	\$1.70	\$2.05	\$2.40	\$2.75
F/S; PTT/KEY	\$2.06	\$0.85	\$1.25	\$1.65	\$2.05	\$2.50	\$2.90	\$3.30
San Juans - Lopez	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00
San Juans - Shaw/Orcas	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00
San Juans - Friday Harbor	\$8.76	\$3.50	\$5.25	\$7.00	\$8.75	\$10.50	\$12.25	\$14.00

Pricing Tables: Peak Drive-on	Current Drive-on Fare	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Route		100%	120%	140%	160%	180%	200%	220%
S / BA; S / BR; E / K	\$10.40	\$10.40	\$12.45	\$14.55	\$16.65	\$18.70	\$20.80	\$22.85
Muk / Clinton	\$6.17	\$6.15	\$7.40	\$8.65	\$9.85	\$11.10	\$12.35	\$13.55
F/V; V/S; PTD/T	\$13.32	\$13.30	\$16.00	\$18.65	\$21.30	\$24.00	\$26.65	\$29.30
F/S; PTT/KEY	\$8.01	\$8.00	\$9.60	\$11.20	\$12.80	\$14.40	\$16.00	\$17.60
San Juans – Lopez	\$22.61	\$22.60	\$27.15	\$31.65	\$36.20	\$40.70	\$45.20	\$49.75
San Juans - Shaw/Orcas	\$27.13	\$27.15	\$32.55	\$38.00	\$43.40	\$48.85	\$54.25	\$59.70
San Juans - Friday Harbor	\$32.23	\$32.25	\$38.65	\$45.10	\$51.55	\$58.00	\$64.45	\$70.90


Pricing Tables: Off-Peak Drive-on	Current Drive-on Fare	OP1	OP2	OP3	OP4	OP5	OP6	OP7
Route		40%	60%	80%	100%	120%	140%	160%
S / BA; S / BR; E / K	\$10.40	\$4.15	\$6.25	\$8.30	\$10.40	\$12.45	\$14.55	\$16.65
Muk / Clinton	\$6.17	\$2.45	\$3.70	\$4.95	\$6.15	\$7.40	\$8.65	\$9.85
F/V; V/S; PTD/T	\$13.32	\$5.35	\$8.00	\$10.65	\$13.30	\$16.00	\$18.65	\$21.30
F/S; PTT/KEY	\$8.01	\$3.20	\$4.80	\$6.40	\$8.00	\$9.60	\$11.20	\$12.80
San Juans - Lopez	\$22.61	\$9.05	\$13.55	\$18.10	\$22.60	\$27.15	\$31.65	\$36.20
San Juans - Shaw/Orcas	\$27.13	\$10.85	\$16.30	\$21.70	\$27.15	\$32.55	\$38.00	\$43.40
San Juans - Friday Harbor	\$32.23	\$12.90	\$19.35	\$25.80	\$32.25	\$38.65	\$45.10	\$51.55

There were 8 random choice tasks and 2 fixed tasks for the non-discretionary conjoint section. Both fixed tasks showed the four Mode levels, with Shift held at level one for all modes. The first fixed task held Price at the 2nd level for all four modes, and the second fixed task held Price at the 6th level. An example screenshot for the choice tasks is on the next page.


Screen 26-35 Discretionary Conjoint Screens (Sample below) -- Skip if no discretionary drive-on trips in past month

Imagine that WSF came up with a new pricing schedule. Thinking about your **most recent discretionary trip**, if these were your only options, which would you choose?


I would Walk on the Current ferry that departs at 8:00 am where I need to be at the terminal 5 min before departure and where the one-way fare is \$4.25




I would Drive on the Current ferry that departs at 8:00 am where I need to be at the terminal 60 min before departure and where the one-way fare is \$20.80



I would Drive on the earlier ferry that departs at 6:30 am where I need to be at the terminal 5 min before departure and where the one-way fare is \$12.45



I would Drive on the later ferry that departs at 8:45 am where I need to be at the terminal 5 min before departure and where the one-way fare is \$6.25



NONE: I would NOT make this discretionary trip

Given these drive-on and walk-on options/fares , I would just not use the ferries and find some other way to accomplish my trip purpose (either on-island or combined with another trip or not at all)



Choose by clicking one of the buttons above.

Note that we are showing you several screens of questions like this. They may look very similar, but they are all different in some way. Please look carefully at the options and choose appropriately.

Next

Study Background / Objectives / Methodology

Opinion Research Northwest (ORC-NW) conducted an online survey with Washington State Ferry summer customers. With the exception of the pretest, the sample was drawn from the Summer 2008 Onboard customers that agreed to be re-contacted – a total of 2,288 respondents provided either email or telephone contact information. Those that had a phone number, but didn't provide an email address were called to collect an email address if the respondent had one available. A total of 233 respondents were either unable to be contacted or didn't have an email address, leaving 2,055 usable records for this study.

The following steps outline the process for surveying customers on this list:

1. Pretest: a random sample of 150 customers was drawn from the database of Winter 2008 Onboard customers who agreed to participate in research but did not complete or refuse the pricing conjoint and drive on the ferry at least some of the time. The pretest data collection was conducted August 18–21, 2008 with three reminders sent several days apart during this period to respondents who had not yet completed at each point in time. For the pretest we achieved 31 completes out of 150 customers – so a 21 percent response. In addition, there were 13 incomplete surveys.
2. Pre-notification emails were sent to the entire list of 2,055 working records on August 22, 2008.
3. Data Collection: All respondents were sent an e-mail with a link to the survey on August 26, 2008.
4. Three reminder emails were sent to those who did not complete the survey, followed by several telephone reminders. In addition all undeliverable email addresses throughout the study were followed up and corrected where possible by phoning the respondent to verify their email address. Survey links were re-sent the next day to corrected email addresses.

Online respondents were asked a mix of quantitative and qualitative questions. Several series of questions were asked to gauge customers' travel habits including the route(s) used most often, number of trips by trip purpose, and direction / day / time of travel. Customers were also asked about their most recent trip including scheduled departure and arrival times, trip purpose, fare payment method, and cost of trip. Respondents were also asked whether several options for getting to the ferry terminals would encourage them to walk on the ferry instead of drive on. A series of conjoint questions were included to determine whether respondents would walk on the ferry given specific scenarios. Demographic questions finished off the questionnaire followed by offering respondents an opportunity to provide any feedback or suggestions.

At the conclusion of the study on September 21, 2008, 675 of 1,675 customers with working email addresses had completed the survey. Five hundred thirty four (534) completed some or all of the conjoint section. A total of 461 completed the entire conjoint study including the calibration tests. Analysis of the mode shift data is based on these 461 respondents. Therefore, 40 percent of the panel completed some or all of the survey. Of the remaining panel, 172 customers clicked on the link but did not finish the survey, 198 refused participation, 613 had non-working email addresses, and 630 had not started the survey.

The following table provides details on the characteristics of panel members and those who ultimately completed the Mode Sensitivity Study as compared to the respondents to the summer on-board survey overall and to respondents in the summer on-board survey who drove onto the ferry at least half of the time.

Table 53: Demographic Characteristics of Panel and Study Participants Compared to On-Board Survey Respondents

	All Summer On-Board Survey Respondents (n=7,659)	Summer Peak Weekday Vehicle Drivers (n=1,063)	Summer Respondents Agreeing to Participate in Research (n=2,288)	Mode Shift Conjoint Exercises Respondents (n=461)
Gender				
Male	47%	57%	50%	55%
Female	53%	43%	50%	44%
Age				
16 – 17	1%	<1%	1%	0%
18 – 24	7%	3%	5%	1%
25 – 34	12%	8%	12%	9%
35 – 44	17%	15%	18%	19%
45 – 54	25%	26%	28%	31%
55 – 64	24%	30%	25%	32%
65 +	14%	17%	12%	8%
Median	50.2	54.0	50.3	51.1
Employment				
Full-Time	60%	65%	65%	77%
Part-Time / student	16%	11%	13%	8%
Self-Employed	1%	1%	1%	2%
Retired	17%	17%	14%	10%
Other	8%	5%	7%	2%
Household Income				
< \$15,000	4%	1%	3%	<1%
\$15,000 - \$35,000	10%	9%	10%	4%
\$35,000 - \$50,000	11%	8%	10%	7%
\$50,000 - \$75,000	20%	20%	20%	20%
\$75,000 - \$100,000	18%	19%	20%	22%
\$100,000 - \$150,000	20%	23%	21%	28%
\$150,000 Plus	16%	20%	16%	18%
Median	\$80,732	\$90,779	\$83,330	\$95,772
Trip Frequency (# of one-way rides per month)				
Less than 7	51%	40%	37%	25%
7-24	26%	30%	31%	42%
25-44	16%	22%	21%	26%
45 plus	7%	9%	10%	33.1
Mean	14.2	17.8	18.6	33.1

Questionnaire

Intro

Thank you for participating in the on-board survey and agreeing to participate in this important additional research. Feedback from ferry customers such as you is an important component of the public input process.

The overall purpose of this second phase of the research is to have customers provide input on several strategies that are being considered to develop comprehensive solutions that will meet the needs of Washington State Ferry (WSF) customers now and into the future.

Understand, this is the first step in the feedback process. None of these solutions will be implemented nor will fares be changed without separate public input.

Thank you in advance for your time and thoughtful answers.



Dan O'Neal
Chairman, Washington State Transportation Commission

Confirm

To confirm, we have from the on-board survey that you agreed to participate in this additional research and that your name is **[Name]** and your e-mail address is **[Email]**. Is that correct?

☐ Yes

☐ No

Confirm2 (only if Confirm=No)

Could you please provide your name and e-mail in the boxes below and push NEXT when you are done.

Name:

Email:

Q1

To get started, we need to ask you some general questions on your ridership. Some questions may seem similar to the on-board survey. However, we need your responses here as they will be used in subsequent sections of this survey. The first question is:

Which WSF route do you ride most often?

- ☐ Seattle / Bainbridge
- ☐ Seattle / Bremerton
- ☐ Fauntleroy / Vashon
- ☐ Fauntleroy / Southworth
- ☐ Vashon / Southworth
- ☐ Point Defiance / Tahlequah
- ☐ Edmonds / Kingston
- ☐ Mukilteo / Clinton
- ☐ Port Townsend / Keystone
- ☐ Anacortes / San Juans

Q1SJ

Which island in the San Juans is your primary destination?

- ☐ Lopez
- ☐ Shaw
- ☐ Orcas
- ☐ Friday
Harbor

Q1a

Which side of the [*Show Route From Q1*] route do you live on?

- ☐ East ([*Show east terminal of route*])
- ☐ West ([*Show west terminal of route*])

Q2

During a typical month, approximately how many One-Way trips do you take on all Washington State Ferry routes using each of the following modes of transportation to get on the ferry?

Remember to count a round trip as 2 one-way trips when you make your estimate.

	# of One-way Trips
Drive vehicle on -- As a driver	<input type="text"/>
Drive on -- As a passenger	<input type="text"/>
Walk-on (dropped off or bus/Van or parked or etc. & walked)	<input type="text"/>
Motorcycle / Scooter	<input type="text"/>
Bicycle -- ride bike onto the ferry	<input type="text"/>
Vanpool -- ride vanpool onto the ferry	<input type="text"/>
Some Other Mode [Please describe] <input type="text"/>	<input type="text"/>

[if Q2_r1 = 0 and Q2_r2=0 skip to IntCS]

Q3 (if no, skip back to Q2)

To confirm, you said you take [Q2 total] one-way trips in a typical month?

- ☐ Yes
- ☐ No

[if Q2_r1>0 skip to Q6]

Q4 (if no, skip back to Q2)

To confirm, you DO NOT take any one-way trips as the driver in a personal vehicle in a typical month?

☒ Yes

☐ No

Q5 (show if Q2_r1 = 0 and Q2_r2>0)

For the rest of the survey please think about the trips you take as a passenger in a car. For some of the questions you will need to answer as if you were the driver. For those questions, please take your best guess as to how the driver would have answered the question. Thank you.

Q6

You said you make [if Q2_r1>0, show Q2_r1, else show Q2_r2] one-way trips in a typical month as a driver in your car. How many of your [if Q2_r1>0, show Q2_r1, else show Q2_r2] trips as a driver in the last month were made in each of the following directions and time periods?

WEEKDAYS:

- EASTBOUND -- From 5:30 am to 9:00 am any weekday
- EASTBOUND -- Any other times
- WESTBOUND -- From 2:00 pm to 6:00 pm any weekday
- WESTBOUND -- Any other times

SATURDAYS:

- WESTBOUND -- From 10:00 am to 4:00 pm
- WESTBOUND -- Any other times
- EASTBOUND -- Any other times

SUNDAYS:

- EASTBOUND -- From 10:00 am to 4:00 pm
- EASTBOUND -- Any other times
- WESTBOUND -- Any other times
- TOTAL TRIPS

Q6a (ask only if 0 for all peak time periods in Q6)

What day and direction was your most recent trip for which you drove on the ferry?

- ☐ Eastbound Weekday
- ☐ Westbound Weekday
- ☐ Eastbound Saturday
- ☐ Westbound Saturday
- ☐ Eastbound Sunday
- ☐ Westbound Sunday

Q7

You said you make a total of [$Sum\ Q6_r1 + Q6_r3 + Q6_r5 + Q6_r8$] trips as a vehicle driver during peak travel periods.

For the next set of questions, please think about your most recent vehicle trip on the ferry described below:

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

[The trip described in this sequence will be selected from Q6 trips with the following priority order: Starting from home weekdays peak, starting from home Saturday peak, starting from home Sunday peak, returning home weekday peak, returning home Saturday peak, returning home Sunday peak, nonpeak answer from Q6a]

Q8

Your Trip**Ferry Route:** Anacortes/Lopez**Starting From:** Home**Time Period and Direction:** Eastbound during Weekdays between 5:30 am to 9:00 am

For this one-way trip above, where did you start and end your trip? This information will be grouped with other responses and used for planning purposes.

Starting Location:

Street Address or Cross Streets

City (or Town or Place)

State

Destination Location:

Street Address or Cross Streets

City (or Town or Place)

State

Q8a & Q8b

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

What was your **primary purpose** for your most recent trip described above? Please select the category that best fits the primary purpose of your trip from the drop-down menu below.

Select Primary Trip Purpose: [Q8a - Drop Down menu with same list as below, except last item is Don't Know]

What other purposes, if any, did you have for your most recent trip described above? [Q8b - Multiple select]

- ☐ Commuting to/from Work
- ☐ Commuting to/from School
- ☐ Work Related Activity / Business
- ☐ Personal Business / Activity
- ☐ Medical Appointments
- ☐ Everyday Shopping
- ☐ Major Shopping
- ☐ Tourism / Recreation
- ☐ Travel to/from Special Events
- ☐ Travel to/from to see family/friends
- ☐ Going to/from the Airport
- ☐ Other general purpose not listed above
- ☐ My trip did not have any other purpose

Q9

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

What was the **scheduled departure time** of the ferry you were trying to make for the above trip?

If you don't recall the exact departure time, please give us your best guess.

: ☐ a.m. ☐ p.m.

Q10

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Ferry Departure: [Q9]

What **time did you have to leave for the ferry terminal** in order to drive on / make the [Q9] ferry for the above trip?

If you don't recall the exact time you left for the ferry, please give us your best guess.

: ☐ a.m. ☐ p.m.

Q10a

Your Trip**Ferry Route:** Anacortes/Lopez**Starting From:** Home**Time Period and Direction:** Eastbound during Weekdays between 5:30 am to 9:00 am**Primary Purpose:** [Q8a]**Started Trip at:** [Q10]**Ferry Departure:** [Q9]

Approximately **how long did it take for you to drive to the ferry terminal** for this trip (don't include the time you had to wait at the terminal)?

_____ minutes

Q12 (show if Q2_r1>0)

Your Trip**Ferry Route:** Anacortes/Lopez**Starting From:** Home**Time Period and Direction:** Eastbound during Weekdays between 5:30 am to 9:00 am**Primary Purpose:** [Q8a]**Started Trip at:** [Q10]**Ferry Departure:** [Q9]

How did you pay your fare for this trip?

- ☐ Regular Fare -- Vehicle & Driver
- ☐ Multi-Ride Commuter Card -- Vehicle & Driver
- ☐ Senior / Disabled Fare -- Vehicle & Driver
- ☐ Something Else (Please describe)

Q13 (show if Q2_r1=0 and Q2_r2>0)

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Started Trip at: [Q10]

Ferry Departure: [Q9]

How did you pay your fare for this trip?

- ☐ Regular Fare -- Vehicle / Walk-on Passenger
- ☐ Multi-Ride Commuter Card -- Vehicle / Walk-on Passenger
- ☐ Monthly Ferry Pass
- ☐ Senior / Disabled Convenience Card
- ☐ Youth Fare
- ☐ Something Else (Please describe)

Q14

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Started Trip at: [Q10]

Ferry Departure: [Q9]

Crossing Time: [Show Crossing time for Route in Q1]

Now thinking of when you got off the ferry for this trip, approximately what **time did you arrive at your final destination** ([Q8a])? If you don't recall the exact arrival time, please give us your best guess.

: ☐ a.m. ☐ p.m.

Q15

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Started Trip at: [Q10]

Ferry Departure: [Q9]

Crossing Time: [Show Crossing time for Route in Q1]

Arrived at Final Destination at: [Q14]

Based on the information you gave me, this trip took approximately [Q14 - Q10] minutes from when you left to when you reached your final destination.

Q17

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Started Trip at: [Q10]

Ferry Departure: [Q9]

Crossing Time: [Show Crossing time for Route in Q1]

Arrived at Final Destination at: [Q14]

Total Travel Time:[Q14 - Q10]

Approximately **how much did it cost for you to make this one-way trip in total?** Please include the one-way ferry fare (we estimate you paid \$[Show fare based on answer for Q12 or Q13 and Route Q1] for your one-way ticket), plus your estimate for one-way cost for gas, parking, etc.? Remember, this is just the cost for the one-way trip described above.

\$_____

Your Trip**Ferry Route:** Anacortes/Lopez**Starting From:** Home**Time Period and Direction:** Eastbound during Weekdays between 5:30 am to 9:00 am**Primary Purpose:** [Q8a]**Started Trip at:** [Q10]**Ferry Departure:** [Q9]**Crossing Time:** [Show Crossing time for Route in Q1]**Arrived at Final Destination at:** [Q14]**Total Travel Time:**[Q14 - Q10]

For the next section, we would like you to imagine you needed to repeat the trip you just described above. However, instead of driving on, we would like you to evaluate several travel options that might make it easier for you to walk-on instead.

[if trip is returning home instead of starting from home, show this paragraph]Since you are describing the back half of your trip (returning home) we will need you to think about making the whole trip by walking on.

Press NEXT to see the first travel option.

OptAttributes1

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Please assume you **can walk on** instead of drive for this trip purpose.

Below are several possible options for **traveling from your home to the ferry terminal**. For the trip purpose listed above, how would each of these travel options further encourage you, or not, to walk on for this particular trip?

	Would NOT encourage me AT ALL to walk on for THIS TRIP purpose above	Would encourage me A LITTLE to walk on for THIS TRIP purpose above	Would encourage A LOT to walk on for THIS TRIP purpose above
Transit service from your home to the ferry terminal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive and park at a park-and- ride lot and take transit service from the park-and-ride lot to the ferry terminal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive and park your car in secured garage at the ferry terminal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[If bottom category is selected, the corresponding levels for the attribute "Transportation to Ferry Terminal from Home" will be removed from the ACBC]

OptAttributes1a (if OptAttributes1=1 for all 3 items -- lowest category)

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Of these three options for traveling from your home to the ferry terminal for the trip above, which would you **most prefer**? Please assume that all of these options are available to you from your home.

- **Transit service** from your home to the ferry terminal
- Drive and **park at a park-and-ride lot and take transit service** from the park-and-ride lot to the ferry terminal
- Drive and **park your car in secured garage** at departure ferry terminal

[Only the levels for the attribute "Transportation to Ferry Terminal from Home" corresponding to the selection will be shown in the ACBC]

OptAttributes2

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Please assume you **walk on** instead of drive for this trip purpose.

Below are two possible options for **traveling from the ferry terminal to your final destination**. For the trip purpose listed above, how would each of these travel options encourage you to walk on for this particular trip?

Please assume that transit is available from the ferry terminal to your destination.

	Would NOT encourage me AT ALL to walk on for THIS TRIP purpose above	Would encourage me A LITTLE to walk on for THIS TRIP purpose above	Would encourage A LOT to walk on for THIS TRIP purpose above
Transit service from the ferry terminal pickup point to your final destination	○	○	○
Park a 2nd car in Secured Garage at Arrival Terminal: Use your private car parked at arrival terminal to get to your final destination	○	○	○

[If bottom category is selected, the corresponding levels for the attribute "Transportation from Ferry Terminal to Final Destination" will be removed from the ACBC]

OptAttributes2a (if OptAttributes2=1 for all 2 items -- lowest category)

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Of these two options for traveling from the ferry terminal to your final destination for the trip above, which would you **most prefer**?

Please assume that all of these options are available to you from your home.

- **Transit service** from the ferry terminal pickup point to your final destination
- **Park a 2nd car in Secured Garage at Arrival Terminal:** Use your private car parked at arrival terminal to get to your final destination

[Only the levels for the attribute "Transportation from Ferry Terminal to Final Destination" corresponding to the selection will be shown in the ACBC]

OptAttributes3

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Please assume you **walk on** instead of drive for this trip purpose.

Below are several possible features being considered, that may make it easier for you to walk on the ferry instead of driving on. For the trip purpose listed above, how would each of these travel options further encourage you to walk on for this particular trip?

	Would NOT encourage me AT ALL to walk on for THIS TRIP purpose above	Would encourage me A LITTLE to walk on for THIS TRIP purpose above	Would encourage A LOT to walk on for THIS TRIP purpose above
Access to a Carsharing Program at Arrival Terminal: Pre-authorized carshare users can access a car at the arrival terminal for personal use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to a Guaranteed Ride Home Program (in case of an emergency): Pickup and delivery to departure ferry terminal and pickup from arrival terminal and delivery home for emergencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of Package / Luggage Handling Service: Pre-authorized walk-on riders can have up to 5 packages/luggage carted from destination terminal drop-off point/parking lot to arrival terminal pickup point/parking lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Each attribute above will be included in the ACBC only if the rating is in the top two categories]

Your Trip

Ferry Route: Anacortes/Lopez

Starting From: Home

Time Period and Direction: Eastbound during Weekdays between 5:30 am to 9:00 am

Primary Purpose: [Q8a]

Started Trip at: [Q10]

Ferry Departure: [Q9]

Crossing Time: [Show Crossing time for Route in Q1]

Arrived at Final Destination at: [Q14]

Total Travel Time:[Q14 - Q10]

In this next section, we would like you to consider a number of different possible scenarios for walking on the ferry instead of driving. Consider each of these scenarios as if you were going to redo the trip you described above.

ACBC section: Walkon_BYO (levels or attributes removed in previous section for the respondent will not be shown)

Think about walking on the ferry for the trip you just described. For each feature below, what aspect would you most prefer if you were to walk on the ferry instead of driving on.

Feature	Select One Aspect For Each Feature
Transportation to Ferry Terminal From Home	<input type="radio"/> Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal) <input type="radio"/> Regular transit service from a stop near your home (within quarter mile) to the ferry terminal <input type="radio"/> Drive and park at a park-and-ride lot for free and take transit service from the park-and-ride lot to the ferry terminal <input type="radio"/> Drive and park at a park-and-ride lot for \$5/day and take transit service from the park-and-ride lot to the ferry terminal <input type="radio"/> Drive and park your car in secured garage at departure ferry terminal for free <input type="radio"/> Drive and park your car in secured garage at departure ferry terminal -- \$5 per day <input type="radio"/> Drive and park your car in secured garage at departure ferry terminal -- \$10 per day <input type="radio"/> Drive and park your car in secured garage at departure ferry terminal -- \$15 per day
Terminal Walkway Improvements (Click for Definition)	<input type="radio"/> Open Air Walkways <input type="radio"/> Overhead Covered Walkways <input type="radio"/> Enclosed and Heated Walkways
Transportation from the Ferry Terminal to Your Final Destination (Click for Definition)	<input type="radio"/> Regularly scheduled transit service (average 15 minute wait) from the ferry terminal pickup point direct to your final destination <input type="radio"/> Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination <input type="radio"/> Regularly scheduled transit service (average 15 minute wait) from the ferry terminal pickup point to a transit center where you transfer to a bus to get to your final destination <input type="radio"/> Specially scheduled transit service (average 15 minute wait) from the ferry terminal pickup point to a transit center where you transfer to a bus to get to your final destination <input type="radio"/> Park for free a 2nd car in secured garage at arrival terminal you use to get to your final destination <input type="radio"/> Park for \$5.00/day a 2nd car in secured garage at arrival terminal you use to get to your final destination <input type="radio"/> Park for \$10.00/day a 2nd car in secured garage at arrival terminal you use to get to your final destination <input type="radio"/> Park for \$15.00/day a 2nd car in secured garage at arrival terminal you use to get to your final destination
Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes)	<input type="radio"/> 135 minutes <input type="radio"/> 150 minutes <input type="radio"/> 187.5 minutes <input type="radio"/> 225 minutes <input type="radio"/> 262.5 minutes <input type="radio"/> 300 minutes
Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$5.00)	<input type="radio"/> \$ 2.50 <input type="radio"/> \$ 3.50 <input type="radio"/> \$ 4.25 <input type="radio"/> \$ 5.00
Access to a Guaranteed Ride Home Program (Click for Definition)	<input type="radio"/> Free (ferry fare cost only) <input type="radio"/> \$20.00 (plus ferry fare) <input type="radio"/> \$40.00 (plus ferry fare) <input type="radio"/> \$80.00 (plus ferry fare)
Access to a Carsharing Program at Arrival Terminal	<input type="radio"/> Free rental for 5 hours (pay cost of gas only) <input type="radio"/> \$20.00 for 5 hour rental (plus gas) <input type="radio"/> \$40.00 for 5 hour rental (plus gas) <input type="radio"/> \$80.00 for 5 hour rental (plus gas)
Availability of Package / Luggage Handling Service (Click for Definition)	<input type="radio"/> Free for up to 5 package/luggage handling <input type="radio"/> \$5.00 for up to 5 package/luggage handling <input type="radio"/> \$10.00 for up to 5 package/luggage handling <input type="radio"/> \$15.00 for up to 5 package/luggage handling

ACBC section: Walkon_Screener (7 screens)

Here are a few scenarios for walking on the ferry that you might like. For each one, please indicate **whether or not for your trip's primary purpose** (Commuting to/from Work) it would be a **possibility for you to walk on the ferry under this scenario**. Currently, you pay \$[Q17] and it takes [Q14-Q10] minutes for this trip.

Transportation to Ferry Terminal From Home	Drive and park at a park-and-ride lot for free and take transit service from the park-and-ride lot to the ferry terminal	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal)	Drive and park at a park-and-ride lot for \$5/day and take transit service from the park-and-ride lot to the ferry terminal	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal)
Terminal Walkway Improvements (Click for Definition)	Enclosed and Heated Walkways	Enclosed and Heated Walkways	Enclosed and Heated Walkways	Open Air Walkways
Transportation from the Ferry Terminal to Your Final Destination (Click for Definition)	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination	Park for free a 2nd car in secured garage at arrival terminal you use to get to your final destination	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination	Specially scheduled transit service (average 2 minute wait) from the ferry terminal pickup point direct to your final destination
Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes)	262.5 minutes	135 minutes	135 minutes	187.5 minutes
Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$5.00)	\$ 2.50	\$ 3.50	\$ 2.50	\$ 2.50
Access to a Guaranteed Ride Home Program (Click for Definition)	Free (ferry fare cost only)	\$20.00 (plus ferry fare)	Free (ferry fare cost only)	Free (ferry fare cost only)
Access to a Carsharing Program at Arrival Terminal	Free rental for 5 hours (pay cost of gas only)	Free rental for 5 hours (pay cost of gas only)	\$20.00 for 5 hour rental (plus gas)	Free rental for 5 hours (pay cost of gas only)
Availability of Package / Luggage Handling Service (Click for Definition)	\$5.00 for up to 5 package/luggage handling	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling
	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me

(1 of 8 screens)

For each scenario, indicate whether or not it would be a **possibility for you to walk on the ferry in this scenario**.

Table of Prices Shown Based on Fare Payment Method and Route:

Prices in Schedule	Passenger in vehicle or walk on					Vehicle and Driver		
	Regular	Senior	Youth	Wave2Go	Monthly Pass	Regular	Senior	Wave2Go
Seattle / Bainbridge	3.35	1.68	2.70	2.68	1.95	14.45	12.75	9.24
Seattle / Bremerton	3.35	1.68	2.70	2.68	1.95	14.45	12.75	9.24
Fauntleroy / Vashon	2.15	1.08	1.73	1.72	1.25	18.50	16.35	11.84
Southworth / Vashon	2.15	1.08	1.73	1.72	1.25	18.50	16.35	11.84
Fauntleroy / Southworth	2.60	1.30	2.10	2.08	2.08	11.15	9.85	7.12
Point Defiance / Tahlequah	2.15	1.08	1.73	1.72	1.25	18.50	16.35	11.84
Edmonds / Kingston	3.35	1.68	2.70	2.68	1.95	14.45	12.75	9.24
Mukilteo / Clinton	1.98	0.98	1.60	1.58	1.15	6.85	5.85	5.48
Port Townsend / Keystone	2.60	1.30	2.10	2.08	2.08	11.15	9.85	7.12
Anacortes / Lopez	12.50	6.23	10.03	7.12		34.15	27.88	19.95
Anacortes / Shaw	12.50	6.23	10.03	7.12		40.98	34.70	23.93
Anacortes / Orcas	12.50	6.23	10.03	8.12		40.98	34.70	24.93
Anacortes / Friday Harbor	12.50	6.23	10.03	7.12		48.68	42.40	28.43

Levels used for Computation of Total Trip Time and Cost of Trip based on Respondent Data:

Total Trip Time if Walk On the Ferry (actual trip time shown to respondents based on the total amount of time of their most recent drive-on trip)	7.	90% of drive time (i.e., total time to walk on, including transit use or time required to drive and park, is 10 percent less than the amount of time riders' current trip takes)
	8.	100% of drive time (i.e., total time to walk on, including transit use or time required to drive and park, is the same as the amount of time riders' current trip takes)
	9.	125% of drive time
	10.	150% of drive time
	11.	175% of drive time
	12.	200% of drive time
Cost of Trip to Walk Instead of Drive (actual cost of walk-on trip was shown based on the cost of their drive-on trip which was computed based on answers to questions in the setup for the conjoint exercise)	5.	50% of cost to drive
	6.	70% of cost to drive
	7.	85% of cost to drive
	8.	Same cost as driving

Definitions:**Terminal Walkway Improvements From:**

1. Drop-off point or parking lot to terminal
2. Terminal to ferry
3. Upon Arrival from ferry to transit pickup point or parking garage

Transportation from the Ferry Terminal to Your Final Destination

Two types of transit service:

1. Regular transit service
2. Transit service specially tailored to ferry arrival schedules

Or park a second car at your arrival terminal to get to your final destination. Only parking fees are shown, other costs are not included.

Access to a Guaranteed Ride Home Program**(in case of an emergency)**

Pickup and delivery to departure ferry terminal and pickup from arrival terminal and delivery home for emergencies.

Availability of Package/Luggage Handling

Pre-authorized walk-on riders can have packages/luggage carted from destination terminal drop-off point/parking lot to arrival terminal pickup point/parking garage.

ACBC section: Walkon_MustHave (Shown after screener pages 2-7, if there are potential "must have" levels)

We don't want to jump to conclusions, but we've noticed that you've selected scenarios with certain characteristics shown below. If any of these are **absolute requirements**, it would be helpful to know. If so, please mark the one feature that is the greatest **absolute requirement** for you to have to walk on, so we can just focus on scenarios that meet your needs.

[Display generated list of potential "must have" levels]

ACBC section: Walkon_Unacceptable (Shown after screener pages 2-7, if there are potential "unacceptable" levels)

We've noticed that you've avoided scenarios with certain characteristics shown below. Would any of these features be **totally unacceptable**? If so, please **mark the one feature that is the most unacceptable** for you to have to walk on, so we can just focus on scenarios that meet your needs.

[Display generated list of potential "unacceptable" levels]

ACBC section: Walkon_ChoiceTask (Includes all scenarios selected in the screener section as possibilities. They are shown 3 at a time in a tournament style, to determine the respondent's most preferred scenario)

Among these three possible scenarios, which would be the best option for you to walk on? (I've grayed out any features that are the same, so you can just focus on the differences.) Currently, you pay \$[Q17] and it takes [Q14-Q10] minutes for this trip.

Transportation to Ferry Terminal From Home	Curb-to-curb transit service from your home to the ferry terminal (i.e., transit vehicle picks you up at your home and drops you off in front of the terminal)	Regular transit service from a stop near your home (within quarter mile) to the ferry terminal	Drive and park your car in secured garage at departure ferry terminal -- \$15 per day
Terminal Walkway Improvements (Click for Definition)	Overhead Covered Walkways	Overhead Covered Walkways	Overhead Covered Walkways
Transportation from the Ferry Terminal to Your Final Destination (Click for Definition)	Regularly scheduled transit service (average 15 minute wait) from the ferry terminal pickup point direct to your final destination	Park for \$10.00/day a 2nd car in secured garage at arrival terminal you use to get to your final destination	Park for \$5.00/day a 2nd car in secured garage at arrival terminal you use to get to your final destination
Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes)	150 minutes	135 minutes	135 minutes
Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$40.00)	\$ 20.00	\$ 34.00	\$ 20.00
Access to a Guaranteed Ride Home Program (Click for Definition)	Free (ferry fare cost only)	Free (ferry fare cost only)	Free (ferry fare cost only)
Access to a Carsharing Program at Arrival Terminal	Free rental for 5 hours (pay cost of gas only)	Free rental for 5 hours (pay cost of gas only)	Free rental for 5 hours (pay cost of gas only)
Availability of Package / Luggage Handling Service (Click for Definition)	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling	Free for up to 5 package/luggage handling
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(1 of # screens)

ACBC section: Walkon_Calibration (Shows the scenario chosen in the BYO section, two random scenarios from the choice tournament, and the winning scenario from the choice tournament)

How likely would you be to walk on the ferry in the scenario described below, for your trip with the primary purpose of [Q8a]?
Currently, you pay [Q17] and it takes [Q14 - Q10] minutes for this trip.

Transportation to Ferry Terminal From Home Terminal Walkway Improvements (Click for Definition) Transportation from the Ferry Terminal to Your Final Destination (Click for Definition) Total Trip Time if Walk-On the Ferry (Current drive-on trip time: 150 minutes) Cost of Trip - Ferry/Transit/Gas only (Current drive-on cost: \$40.00) Access to a Guaranteed Ride Home Program (Click for Definition) Access to a Carsharing Program at Arrival Terminal Availability of Package / Luggage Handling Service (Click for Definition)	Drive and park your car in secured garage at departure ferry terminal -- \$5 per day Overhead Covered Walkways Regularly scheduled transit service (average 15 minute wait) from the ferry terminal pickup point direct to your final destination 135 minutes \$ 20.00 Free (ferry fare cost only) Free rental for 5 hours (pay cost of gas only) Free for up to 5 package/luggage handling
	<input type="radio"/> Definitely Would Walk on <input type="radio"/> Probably Would Walk on <input type="radio"/> Might or Might Not Walk on <input type="radio"/> Probably Would Not Walk on <input type="radio"/> Definitely Would Not Walk on

(1 of 4 screens)

IntCS

And finally, please consider some of the issues surrounding funding for the Washington State Ferries.

Fare

To what extent do you feel that each of the following groups should be responsible for paying for the Washington State Ferry system? Their current share is shown below.

Please allocate 100 percentage points across these 3 categories based on what you think each group should pay.

- ☐ Fares paid by all **ferry riders**
Current share: 50%

- ☐ Local taxes or fees paid by **residents and businesses of ferry-served areas**
Current share: 0%

- ☐ Taxes and fees paid by all **Washington State residents** (such as gas tax and vehicle license fees)
Current share: 50%

- ☐ Total

Gender

The following questions are used to group your responses with other people like yourself. Your individual responses will be kept strictly confidential.

Are you...

- ☐ Male
- ☐ Female
- ☐ Prefer not to answer

Age

Which of the following categories includes your age?

- ☐ 16 to 17
- ☐ 18 to 24
- ☐ 25 to 34
- ☐ 35 to 44
- ☐ 45 to 54
- ☐ 55 to 64
- ☐ 65 and over
- ☐ Prefer not to answer

Employ

Are you...

- ☐ Employed Full-time
- ☐ Employed Part-time
- ☐ Student and Employed
- ☐ Student / Not Employed
- ☐ Military Personnel
- ☐ Retired
- ☐ Homemaker
- ☐ Not currently employed
- ☐ Other: Please describe
- ☐ Prefer not to answer

Income

What is your annual Household Income before taxes?

- ☐ Less than \$15,000
- ☐ \$15,000 to \$24,999
- ☐ \$25,000 to \$34,999
- ☐ \$35,000 to \$49,000
- ☐ \$50,000 to \$74,999
- ☐ \$75,000 to \$99,999
- ☐ \$100,000 to \$149,999
- ☐ \$150,000 or more
- ☐ Prefer not to answer

Comments

Finally, please write in the space below any feedback or suggestions you have regarding this survey. If you had difficulty understanding any of the questions or instructions, please let us know that as well.



Next